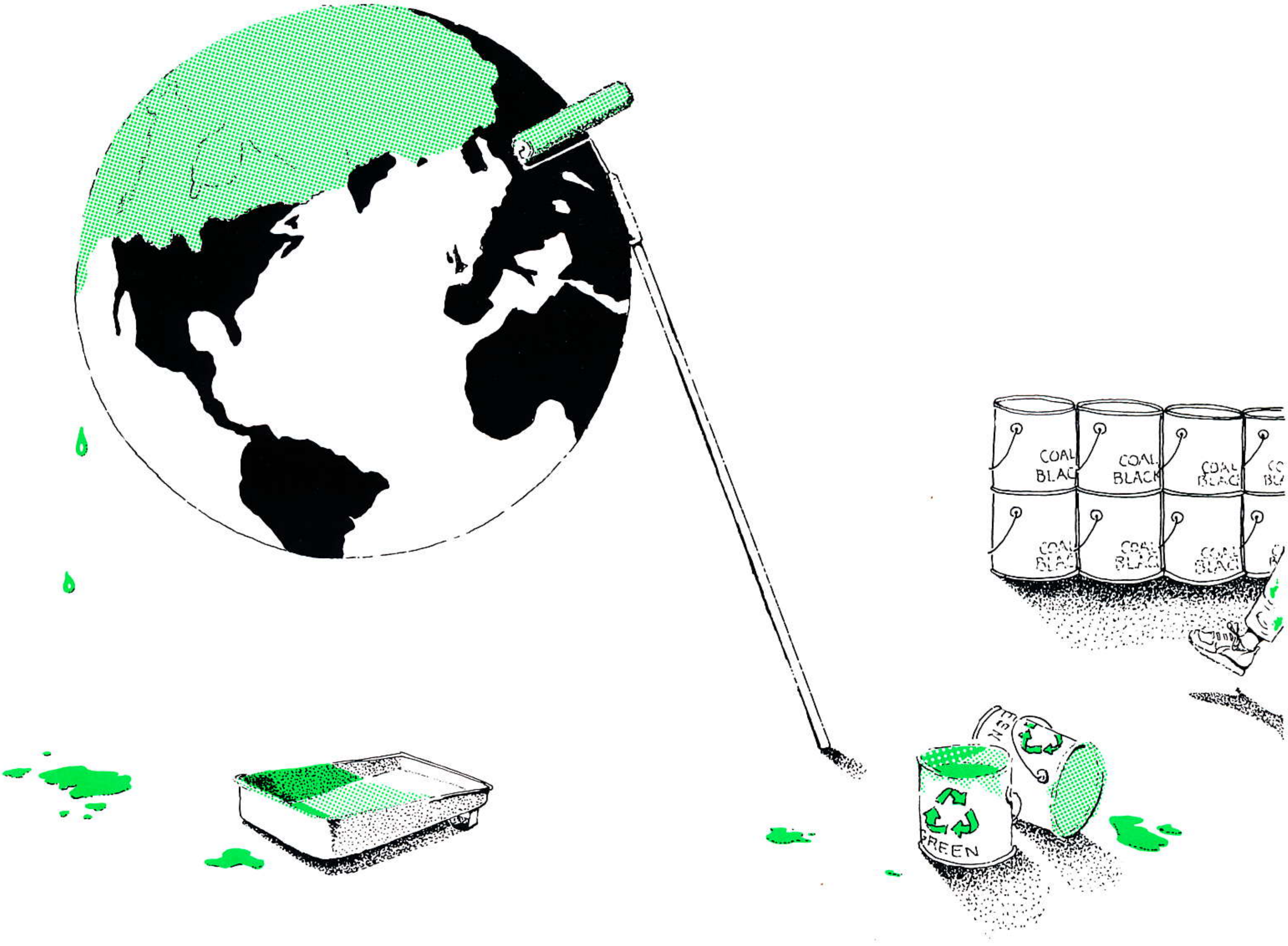
Canadian
Home Economics
Journal

Winter 1992. Volume 42, No. 1

Revue
canadienne
d'économie familiale

Hiver 1992. Volume 42, nº 1


COAL BLACK
COAL BLACK
COAL BLACK
GREEN
GREEN

Mark your calendars for these upcoming conferences:

1992	July 12-15	CHEA	Saskatoon, Saskatchewan	*Breaking the Barriers* *Social and Global Space*
1993		CHEA	Windsor, Ontario	
1992	June 28-July 2	AHEA	Denver, Colorado	*Options and Opportunities*
1992	July 26-31	IFHE Congress	Hanover, Germany	*Focussing on Families and Households: Change and Exchange*

Home Economics is concerned with all aspects of daily living including human relationships and development, resource management, consumerism, foods and nutrition, clothing and textiles, housing and aesthetics. Home Economics brings together knowledge from its own research, the sciences and the arts and uses this knowledge to assist people in enhancing their daily lives.

CODE OF ETHICS

As a home economist and as a member of the Canadian Home Economics Association, I pledge to practise home economics to the best of my abilities and to:

1. Uphold the mission of home economics to enhance the quality of daily life for individuals and families.
2. Support the Association and further its aims.
3. Discharge my professional duties with integrity.
4. Strive to provide the best service available and only that service for which qualifications are possessed.
5. Inform the public and employer of possible consequences of services, products and policies which may impact the well being of individuals and families.
6. Strive to make judgments and recommend solutions in a rational, just and unbiased manner in such matters as confidentiality and conflict of interest.
7. Strive to protect the public in the event of unethical or incompetent behaviour of colleagues and fellow family professionals.
8. Strive to be cooperative and equalitarian in approach to clientele and colleagues.
9. Maintain high standards of professional practice through continuing education, critique and reflection of professional experience, and participation in dialogue with the professional community.
10. Reflect critically on optimum conditions for human health and well being.
11. Conduct myself at all times so that no dishonor befalls individual members or the profession.

L'Économie Familiale touche tous les aspects de la vie quotidienne, dont les relations humaines et l'épanouissement de la personne, la gestion des ressources, l'économie de la consommation, les aliments et la nutrition, l'habillement et les textiles, l'habitat et l'esthétique. L'économie familiale regroupe un ensemble de connaissances issues deses propres travaux de recherche, des sciences et des arts en vue d'aider la population dans la vie de tous les jours.

CODE DE DÉONTOLOGIE

En qualité d'économiste familiale et de membre de l'Association canadienne d'économie familiale, je m'engage à pratiquer l'économie familiale aux mieux de mes compétences et à:

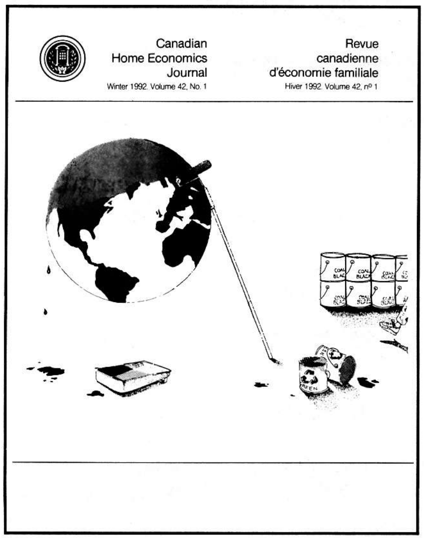
1. Appuyer la mission de l'économie familiale, qui consiste à améliorer la qualité de la vie quotidienne des personnes et des familles.
2. Soutenir l'Association et poursuivre les buts qu'elle s'est fixés.
3. Assumer mes responsabilités professionnelles avec intégrité.
4. M'efforcer de fournir les meilleurs services possibles, et seulement les services pour lesquels je suis qualifiée.
5. Informer le public et mon employeur des effets possibles des services, des produits et des politiques pouvant influer sur le bien-être des personnes et des familles.
6. M'efforcer de porter des jugements et de recommander des solutions de façon rationnelle, juste et impartiale quand il est question de confidentialité et de conflits d'intérêt.
7. M'efforcer de protéger le public si des collègues et des professionnels de ma spécialité font preuve d'incompétence ou manquent à la déontologie.
8. M'efforcer de traiter la clientèle et mes collègues dans un esprit d'équité et de coopération.
9. Garder des normes élevées de pratique professionnelle grâce à la formation permanente, à une réflexion objective touchant l'expérience professionnelle, et au dialogue dans mon milieu professionnel.
10. Réfléchir objectivement sur les conditions optimales nécessaires à la santé et au bien-être des personnes.
11. Me conduire de façon à ne jamais jeter le discrédit sur des membres de la profession ou sur la profession même.

Canadian
Home Economics
Journal

Revue
canadienne
d'économie familiale

Winter 1992

Volume 42 No. 1



Cover design: Dennis Goshinmon

Printed by: M.O.M. Printing Ltd., Ottawa

ARTICLES
LES ARTICLES

Is Vitamin C Megadosing an Effective Therapy for AIDS and HIV+ Symptoms?
Linda S. Young 5
Alternate Laundry Formulations: Their Effectiveness and Impact on Health and the Environment
Lee A. Tetreau 9
Produits de remplacement pour la lessive : leur efficacité et leur répercussion sur la santé et l'environnement
Lee A. Tetreau 13
Divorce Policy in Canada
Beverly J. Pain 17

RESEARCH SECTION
SECTION DES RECHERCHES

Rural Alberta Home-Based Businesses: A Profile of Workshop Participants
M. Linda Capjack and Nelma I. Fetterman 22
Editorial Panel 28

DEPARTMENTS
LES RUBRIQUES

Reader Forum 3
Call for Papers 1992 21
Demande d'articles 1992 21
Scholarship for Graduate Study 29
Book Reviews 30
Abstracts of Current Literature 33
New Developments 38
What Do You Say When? Marcia Fossey & Barb MacLean 42
On the Job: Profile of a Home Economist: Betti Stretch, Suzanne Barva, and Corinne Dzaman 44
IFHE . . . In Focus . . . Doris Badir 46
Regards sur la FIEF . . . Doris Badir 46
Advertising Rate Card 49

(Date of issue—January, 1992)

ISSN 0008-3763

Second Class Mail
Registration No. 6671

Published quarterly/Publication trimestrielle

Canadian Home Economics Association
901-151 Slater Street, Ottawa, K1P 5H3, Canada
Tel: (613) 238-8817/238-8819

CHEJ EDITORIAL OFFICE

Lethbridge Community College
3000 College Drive South
Lethbridge, AB, T1K 1L6, Canada

Editor/Rédactrice en chef

Glenda Everett, PHEc, MS
Program Administrator
Lethbridge Community College
Lethbridge, AB, T1K 1L6
Tel: (403) 320-3343
(403) 329-6948

**Associate Editor/
Rédactrice associée**

MaryAnn Joly, PHEc
Home Economist
Canadian Western Natural
Gas Company Limited
Lethbridge, AB, T1H 2A9
Tel: (403) 327-4551
(403) 381-0428

**Contributing Editor/
Rédactrice en collaboration**

Brenda White
Nutrition Educator
Dairy Nutrition Council
#6, 2111 Centre St. N.
Calgary AB, T2E 2T2
Tel: (403) 276-5884 (W)
252-9080 (H)
Fax: (403) 277-1854

**Book Review Editor/
Rédactrice des comptes rendus**

Linda West, PHEc
Home Economist
Canadian Western Natural
Gas Company Limited
Lethbridge, AB, T1H 2A9
Tel: (403) 327-4551
(403) 756-3560

French Editor/Rédactrice française

Carmelle Therien-Viau
Retired
C.P. 192
Prevost, Quebec J0R 1T0
Tel: (514) 224-2738

**Research Editor/
Rédactrice des
articles de recherches**

Betty Crown, PhD
Dean, Faculty of Home Economics
115 Home Economics Building
University of Alberta
Edmonton, Alberta T6G 2N1
Tel: (403) 492-3824

Advisor/Consultante

Ruth Berry, PhD
Faculty of Home Economics
University of Manitoba
Winnipeg, MB R3T 2N2
Tel: (204) 474-9704
(204) 261-7127
Fax (204) 275-5299

**Business Manager/
Administratrice**

CHEA National Office
901-151 Slater St.
Ottawa, ON, Canada
K1P 5H3

**Advertising Representative/
Représentant de publicité**

CHEA National Office
901-151 Slater St.
Ottawa, ON, Canada
K1P 5H3

CHEA BOARD OF DIRECTORS 1991-92 EXECUTIVE COMMITTEE

President
Linda McKay

President-Elect
Ruth Berry

Secretary
Nancy Scrutton

Treasurer
Diane Law

Vice-President — Public Policy
Ann Scott

Vice-President — Professional Development
Donna Osmun

Vice-President — Professional Practice
Carol Steyn

Vice-President — International Development
Alleyne Murphy

OTHER BOARD MEMBERS

Past President
Barbara Cousens

CHE Journal Editor
Glenda Everett

REGIONAL DIRECTORS

British Columbia
Jane Thomas

Saskatchewan
Barbara Cox Lloyd

Ontario
Roxanne McQuilken

New Brunswick
Margaret McCormack

Prince Edward Island
Nancy Reddin

Yukon/Northwest Territories
Helen Strelioff

Alberta
MaryAnn Joly

Manitoba
Marguerite Molgat Hughes

Quebec
Agathe Gagné Collard
Emily Reid

Nova Scotia
Coral Murphy

Newfoundland/Labrador
Joan Casey

The Association: The Canadian Home Economics Association is the national professional organization for those educated and/or working in the field of consumer and family studies, foods and nutrition, home economics, and human ecology. The mission of the association is to strengthen the home economics profession and to actively promote improved quality of life for individuals and families in Canada and the developing world.

Subscriptions, membership fees and change of address should be mailed to the CHEA National Office, 901-151 Slater St., Ottawa K1P 5H3, Canada.

Subscriptions are available to libraries and institutions at the rate of $50.00 per year ($55.00 U.S.; $59.00 Foreign) and to individuals not eligible for membership at the rate of $35.00 per year ($40.00 U.S.; $44.00 Foreign).

Classified Ads should be sent directly to the Business Manager. The rate is 95 cents per word or figure ($30 minimum). Rates for classified display ads are available on request.

Contents are indexed in the *Canadian Periodical Index* and selectively indexed in *Public Affairs Information Service (PAIS), Canadian Education Index, Nutrition Abstracts and Reviews, Inventory of Marriage* and *Family Literature, Bibliographic Index of Health Education Periodicals, Current Index to Journals in Education*, and *World Textile Abstracts*. Microfilm and Xerographic copies are available from Micromedia Limited, 158 Pearl Street, Toronto, Canada M5H 1L3 and University Microfilms International, 300 N. Zeeb Road, Ann Arbor, MI 48106.

Responsibility: The materials herein printed including advertising copy are the expression of the writers and not necessarily a statement of policy of the Canadian Home Economics Association.

©Copyright, Canadian Home Economics Association, 1991. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form by any means without prior written permission.

Supported in part by grants from The Canadian Home Economics Foundation and the Canadian Association of Research in Home Economics.

L'Association d'Économie familiale est un organisme professionnel national regroupant les personnes diplômées en études de la famille, en consommation, en alimentation, en nutrition, en économie familiale ou en écologie humaine. Le but de l'Association est de promouvoir la profession et d'assurer une plus grande qualité de vie aux personnes et aux familles au Canada et dans le monde en voie de développement.

Le règlement des abonnements et des cotisations et les changements d'adresse doivent être envoyés au Bureau national de l'ACEF, 901-151, rue Slater, Ottawa K1P 5H3, Canada.

L'abonnement annuel aux bibliothèques et aux institutions est 50$ (55$, États-Unis; 59$, autres pays etrangers). Aux individus qui ne peuvent devenir membres de l'association, l'abonnement annuel est 35$ (40$, États-Unis; 44$, autres pays étrangers).

Le matériel publicitaire doit être envoyé directement à l'administratrice. Tarif des petites annonces : 95 cents le mot ou le chiffre (minimum de 30 $); annonces en vedette : tarif sur demande.

Nos articles sont répertoriés dans l'*Index des périodiques canadiens*, et sélectivement, dans *Public Affairs Information Service* (PAIS), le *Répertoire canadien sur l'éducation, Nutrition Abstracts and Reviews, Inventory of Marriage and Family Literature, Bibliographic Index of Health Education Periodicals, Current Index to Journals in Education* et *World Textile Abstracts*. Pour en obtenir des copies dactylographiées ou sur microfilm, s'adresser à Micromedia Limited, 158, rue Pearl, Toronto, Canada M5H 1L3, ou à University Microfilms International, 300 N. Zeeb Road, Ann Arbor, MI 48106.

Responsabilité : Les articles de la *Revue* et le matériel publicitaire ne reflètent pas nécessairement les vues de l'Association canadienne d'économie familiale.

©Copyright, Association canadienne d'économie familiale, 1991. Il est interdit de reproduire, sous quelque forme que ce soit, le contenu de la Revue sans autorisation écrite préalable.

Subventionné en partie par les subsides de la Fondation Canadienne des spécialistes en Économie familiale et ceux de l'Association canadienne de Recherche en Économie Familiale.

MEMBERSHIP IN CHEA
"Membership Means Power"

You owe it to your professional self to be a member of CHEA and to encourage other home economists to be members.

Write to the National Office, 901-151 Slater Street, Ottawa ON, K1P 5H3, for information today or better yet, phone (613) 238-8819.

Reader Forum

Use of the word "home economics"

September 11, 1991

Dear Editor:

Part of the duties of the Secretary of CHEA is to respond to Operation Alert notices. In the past few years, there have been several Alerts related to the same topic . . . namely, the use of the words 'home economics' to sell products and services to the public. Kentucky Fried Chicken was one of the first and caused many home economists to contact CHEA with letters of protests. A certain article in a flight magazine caused several Alerts . . . the heading was HOME ECONOMICS and the body of the article dealt with financing a home. Although those of us in the profession expected to see an article on some aspect of home economics, the profession, the lay person might not interpret that title as we have done. An economist would read it because they were interested in finances.

The point is that we have to realize that we do not, as a profession, own the two words *home* and *economics*. Some say we should be flattered that companies would use the words 'home economics' to attract attention from the public. Whatever the reason they use those words, there is really not much we can do, except write a letter to the companies expressing our feelings. This has not been successful in past instances.

This name problem was brought to the Executive Board's attention at the Meeting in Halifax this past July. It was at the Board's request that I write to you so that you, through the Journal, might disseminate this information to our members. We do not want to discourage them from writing an Operation Alert, however, this same topic has been brought forth many times and the Board directed me to write a letter of clarification of this touchy situation to all our members. Any suggestions from the members on this topic would be most welcome.

Nancy Scrutton
Secretary, CHEA

Becoming more "environmentally friendly"

August 26, 1991

Dear Editor:

This letter to CHEA members is a follow-up to one which I have written to the board of directors about resource management, an area in which our profession claims to have some expertise.

My concern is the lack of consideration given to the environment in the production of the 1990-91 annual report and insert.

At a time when we have become acutely aware of the environmental crisis which is upon us, and following our 1990 conference which dealt in depth with environmental issues, I am at a loss to understand how this association could sanction blatant waste of paper in producing the annual report. By conservative estimates, the dual-language format that was chosen consumed 28,800 pages of paper which were of no use at all to any reader, as each of us naturally reads only one or the other language.

Printing separate English and French reports may even have been slightly more expensive due to labor costs, but we have to broaden our decision-making process to consider environmental impact. What about the cost in loss of trees and forest habitats, proliferation of dioxins from the bleaching of the paper, the oil and gas resources which were required to transport the paper, the ink that was unnecessarily used . . .?

Not only should this association reduce its paper use, we should be proactive and use only recycled paper. It is well-known that the weak link in the recycling chain is lack of demand for recycled products. Processors cannot continue to produce recycled paper if no one is buying it. We must be in the forefront in making recycling work.

We can be excused for poor judgments that are made in ignorance of the facts. However, there is no longer an excuse. We know the environment is in jeopardy. We claim to be responsible professionals, concerned about the well-being of individuals and families. And it is clear that the integrity of the environment is inextricably linked to our well-being.

Responsible membership means letting board members know where we stand on issues. Since the annual report goes into production early in the year, I urge you to let your regional director know how *you* feel.

Do you want CHEA to significantly reduce paper use? Do you read the entire annual report, or would an abbreviated version meet your need for information while saving even more paper? Do you want CHEA to use only recycled paper?

A responsible board acts according to the wishes of its members. Let them know immediately where you stand. You will find a list of regional directors on the second page of this journal.

Sincerely,
Shirley Rebus

September 14, 1991

Dear Editor:

Environmental issues are a priority issues with CHEA and I would like to thank those members who are diligently working to improve the environment. I would like to respond to a concern expressed by Shirley Rebus regarding the production of the 1990-91 Annual Report.

Since 1984 it has been the practice of CHEA to publish a bilingual annual report. In 1990 with the welcoming of the francophone Quebec association into federation, meeting the French language needs of members becomes more critical. This need for French language services were poignantly expressed at the Annual General Meeting in Halifax.

The present CHEA membership database contains language preference now for Quebec and New Brunswick but not for the rest of Canada. When this information is completed, CHEA will be able to respond to members in the language of their preference.

The Annual Report is circulated widely by CHEA in venues where preferred language by readers is not known. These include other professional associations and various government organizations. The Annual Report presents an image for an association. Bilingual format gives a better sense of CHEA as a bilingual organization. Most annual reports received by National Office are in a bilingual format.

With CHEA members no longer receiving a full newsletter there is a greater need for a full accounting of association activities. The Annual Report is the avenue. Members have expressed a great deal of positive feedback regarding the Annual Report.

The Board, Executive, and National Office are continually monitoring ways to responsibly address issues of concern to the membership. I would personally encourage members, as Shirley is doing, to let board members know where they stand on all issues — social, environmental, educational, and various other aspects.

Best wishes to the membership for a happy and productive year.

Sincerely,
Linda M. McKay
President, CHEA

Commentary on a book review

September 17, 1991

Dear Editor:

In her book review of *Home and Family Guide, Practical Action for the Environment,* Donna Barclay "hesitated to commend all the information provided" and encouraged readers to exercise judgment on some issues. I wish to reinforce this cautionary message.

The book perpetuates the "myth"-information that meat eating, particularly beef, is environmentally unfriendly. On the contrary, Canada is ideally suited to grazing livestock. Millions of acres of our vast country are unsuitable for growing of fruits and vegetables and would, in fact, be severely damaged by cultivation. Scientific experts agree that livestock are an important component in sustainable agriculture.

The book reinforces the popular misconception that our enjoyment of a fast food hamburger destroys acres of rainforest. Simple research, such as a call to Stats Canada, would disclose that *no* fresh or frozen beef from South America is permitted entry into Canada. Calls to our four major hamburger chains in Canada would confirm that these establishments do *not* use beef raised in rainforest countries.

Room does not permit a critique of each of the many misleading statements in this book. My gravest concern is that this book fosters a fear of food and promotes a negative image of our agrifood industry. Agriculture has been very responsive to environmental issues. A farmer's livelihood depends on good stewardship of the land. Thanks to our farmers, we enjoy an abundance of safe, wholesome, inexpensive food. Canada has one of the lowest food costs in the world, second only to the United States.

In view of the concerns expressed by scientific and academic experts in both agriculture and environmental studies, along with those voiced by agrifood organizations and businesses, Canada Trust has decided to withdraw distribution of the book until the food section has been reviewed and revised. With this in mind, I recommend that home economists wait for the revised edition.

Sincerely,
Marg Thibeault, PHEc
Public Relations Co-Ordinator
Beef Information Centre

October 29, 1991

Dear Editor:

Could you please notify your membership of the following:

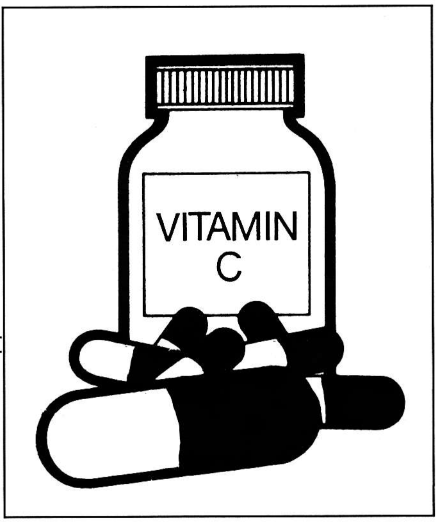
ATTENTION: All those who attended the NFB Workshop at CHEA Conference '91, Halifax, Nova Scotia.

Due to a fire at the NFB headquarters in Halifax in September 1991, the names and addresses of the three people who won "the video of their choice" were lost. If you were one of the winners, please send your name, address and the name of the video requested to:

Joan Semple
National Film Board
5475 Spring Garden Road
Halifax, Nova Scotia B3J 1G2
Phone: 1(902)426-6014

Sincerely,
Barb McCurdy
Program Co-chair
Conference '91

Is Vitamin C Megadosing an Effective Therapy for AIDS and HIV+ Symptoms?



Linda S.Y. Young

Abstract

AIDS (Acquired Immunodeficiency Syndrome) is a disease state that has seized the attention of both the medical profession and the media. The incidence of AIDS worldwide is increasing at an accelerating rate, however, there is, as yet, no cure. Researchers have examined the possible roles of nutrition and pharmacological doses of micronutrients in the prevention, control, and cure of AIDS. One example is the use of Vitamin C. The recent research on Vitamin C megadosing appears promising especially in the prevention and control of AIDS. However, much of the research is based on anecdotal evidence, and no case-controlled studies have been performed. Even so, due to the severity of the disease and the current absence of approved drugs, AIDS therapies involving Vitamin C, or nutrition and micronutrients in general, should not be discounted.

Résumé

Le SIDA (Syndrome d'immunodéficience acquise) est une pathologie qui polarise l'attention du corps médical et des médias. Le nombre des personnes atteintes augmente à un rythme effarant dans le monde entier, mais on n'a toujours pas trouvé de remède pour guérir ces malades. Les chercheurs ont étudié la corrélation possible entre la nutrition et des doses pharmacologiques de micronutriments dans la prévention, le contrôle et la guérison du SIDA. L'emploi de la vitamine C est un bon exemple de ces recherches. Des travaux récents sur des doses massives de vitamine C semblent prometteurs, surtout pour la prévention et le contrôle du SIDA. Mais ces résultats reposent presque tous sur des données isolées et aucune étude vraiment scientifique n'a été faite. Malgré cela, étant donné la gravité de cette maladie et l'absence de médicaments approuvés, les thérapies du SIDA à la vitamine C, ou la nutrition et les micronutriments en général, ne devraient pas être écartés.

In the past few years, Acquired Immunodeficiency Syndrome (AIDS) has become one of the most feared disease states. Not only is the prognosis for AIDS patients extremely bleak, (there are no cures, and, at this time, disability, suffering, and death is inevitable), but the incidence of AIDS is increasing, and predicted to continue to increase, at an accelerating rate (see Figure 1) (Dwyer, Bye, Holt, & Lauze, 1988). AIDS is a group of clinical and biological symptoms (including Kaposi's sarcoma, pneumocystis carnii pneumonia, non-Hodgkin's lymphoma, candidiasis, AIDS encephalitis, and AIDS enteropathy) secondary to an infection caused by the Human Immunodeficiency Virus (HIV). A great concern is that almost all people who are tested as HIV positive (HIV+, possessing HIV antibodies due to having been exposed to HIV), will develop AIDS in the future. Dwyer et al. (1988) discuss conventional (approved drugs), investigational (drugs currently being tested), and unproven therapies for AIDS. Vitamin megadosing is included in the latter group. In this paper, Vitamin C (ascorbic acid) therapy for AIDS/HIV+ will be discussed.

It is not suprising that those with AIDS/HIV+ become desperate enough to try unproven therapies. The drug approval process is very slow, the demand and cost for drugs far exceeds availability and accessibility, and the refusal rate into drug research trials is great. The characteristics of AIDS/HIV+ states also make patients especially prone to using unproven therapies. These characteristics include: the severity/chronicity of the disease (AIDS leads to a lifetime of suffering before death) and the death rates (almost 100%), both of which make the patient desperate enough to use unproven therapies; erratic and unpredictable course of disease-remission cycles (in many anecdotal cases, remission is credited to the therapy even though it may have been part of the natural disease cycle); and social stigma and discrimination (and therefore a desire to treat the disease

---

Linda Young (BSc, Zoology) is a 4th year student specializing in Food Science and Nutrition at Ryerson Polytechnical Institute.

Editor's Note: This paper was the 1991 first place winner of the Elizabeth Feniak Award for Excellence in Writing, sponsored by the Canadian Home Economics Foundation.

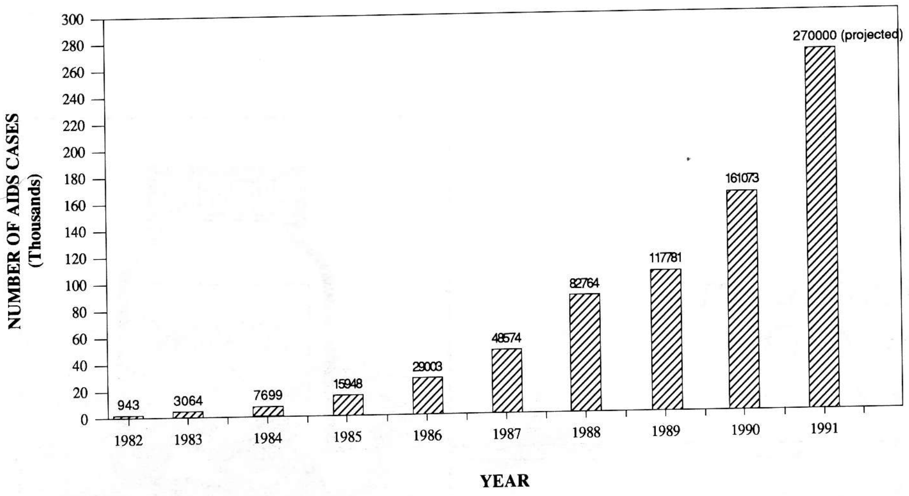


Figure 1. Incidence of AIDS in USA (adapted from Dwyer et al., 1988; and Centre for Disease Control, 1989; 1990; 1991).

without outside assistance or publicity) (Dwyer et al., 1988). Nutritional therapy is a prime target of AIDS/HIV+ patients because the disease predisposes the patient to poor nutritional status (Resler, 1988). This may be due to the diseases's effects on appetite and hence intake, oral and esophageal pain, mechanical problems with eating, diarrhea, and malabsorption (Resler, 1988), as well as nutritional needs (which increase due to infections).

HIV and the Immune System

HIV affects the T4 lymphocytes which are responsible for the recognition of antigens and the sending of messages to stimulate the production of cytotoxic T-cells and B-cells (Rene, 1989). HIV attacks T4 cells (selectively) by attaching to receptors on the cell surface, entering and injecting its viral RNA into the cell where it is incorporated into the cell's DNA, and entering an unknown period of dormancy which is terminated by viral replication (causing T4 cell death) and infection of other T4 cells by the viral copies (Rene, 1989). Jain and Chandra (1984) note that AIDS patients show a significant decrease in the absolute number and activity of T-cells, and most markedly T4 cells, decreased cytotoxic T-cells, but increased immature T-cells, serum immunoglobins, and circulating B-cells. Even though the serum immunoglobins and B-cells are increased, they do not improve immune function because the T4 cells which control immune function are markedly decreased. Any therapy, or cure, of AIDS should therefore show an increase in T4 and T-cells (Pike, 1988).

Vitamin C and the Immune System

Vitamin C has been considered as an AIDS/HIV+ therapy because of its role in the immune system. Studies, which give evidence of high concentrations of Vitamin C in leukocytes and rapid expenditure during viral infection and phagocytosis, suggest a role for Vitamin C in the immune process (Thomas & Holt, 1978; Bendich, 1990). One type of phagocytic cell which is very important in the immune system is the neutrophil. Neutrophils are responsible for "oxidative bursts" (releasing of lysosomal enzymes to kill antigens). During this oxidative burst, the neutrophils take up Vitamin C so that the concentration of Vitamin C in these cells is 150X greater than that in the plasma (Bendich, 1990). Bendich notes studies that show that Vitamin C enhances the response of neutrophils in healthy individuals (Bendich, 1990), however this may not be completely relevant for immunocompromised (AIDS/HIV+) patients.

The release of lysosomal enzymes results in the generation of a superoxide anion (O_2'-) from the reaction of oxygen with NADPH:

$$NADPH + O_2 \xrightarrow{\text{oxidase}} NADP^+ + O_2^- + 2H^+$$

The superoxide anion reacts to form hydrogen peroxide (H_2O_2) which, in the presence of iron salts, produces very reactive hydroxyl radicals ($O\dot{H}$):

$$O_2^- + O_2^- + 2H^+ \xrightarrow{\text{discmutase}} O_2 + H_2O_2$$
$$H_2O_2 + Fe^{+2} \longrightarrow OH^- + OH' + Fe^{+3}$$

The hydroxyl radicals further react with H_2O_2 to form HO_2 radicals which react to form OH' radicals (etc) (Anderson & Theron, 1990):

$$H_2O_2 + OH' \longrightarrow H_2O + HO_2$$
$$O_2 + H_2O + OH' \longleftarrow HO_2 + H_2O_2$$

The release of lysosomal enzymes is not, however, restricted to the infected cell. Surrounding areas of tissue are also exposed to these enzymes (Bendich, 1990), and, recent studies implicate these radicals in carcinogenesis, tissue proteolysis, and immune dysfunction (Anderson et al., 1990). In the latter, these oxidative radicals negatively affect phagocytosis and proliferation of T-cells and B-cells (Bendich, 1990; Anderson et al., 1990). Radical scavengers are required to control these extracellular oxidative reactions. Vitamin C is a radical scavenger which can trap superoxide and hydroxyl radicals (Anderson et al., 1990). Vitamin C has been shown to decrease extracellular damage without decreasing the desired intracellular effects of the lysosomal enzymes (Bendich, 1990). By controlling these potentially immunosuppressive oxidation reactions, Vitamin C is vital for immune function (Anderson et al., 1990). Vitamin C has also been shown to have a role in the secretion of immunoglobins/antibodies and interferons, regeneration of Vitamin E (another antioxidant), and lymphocyte responses (Bendich, 1990).

Because of its role in immune response, it is not surprising that Vitamin C would be considered for AIDS/HIV+ therapy. One of the major advocators and believers of Vitamin C therapy for AIDS/HIV+ is Cathcart (1984). His therapy is based on his previous findings that (bowel) tolerance (as indicated by lack of diarrhea) for Vitamin C increases somewhat proportionately to the toxicity of the disease state. His examples include tolerances during mild colds (50 g per day), severe colds (100 g per day), influenza (150 g per day), and mononucleosis or viral pneumonias (200 g per day). These doses are pharmacological and are markedly higher than both the current RNI of 0.03 to 0.04 g per day, and the average quantity (0.114 g per day) consumed in the average Canadian diet (Bureau of Nutrition Research, 1990). Cathcart, (1984) hypothesizes that the Vitamin C requirements of an AIDS patient are far greater than the needs of both a HIV+ or a healthy individual. He notes that Vitamin C levels, as measured by urine, saliva, or serum levels, indicate a rapid drop during illness. Sauberlich (1975) comments that these methods of assessing Vitamin C status, although practical, are not very accurate in providing information on body stores because they are affected by recent diet. Leukocyte ascorbic acid levels were cited as far more accurate. Even so, Cathcart (1984) continues to assert that the drop in Vitamin C levels will adversely affect "housekeeping" functions in the cells such as proper functioning of the immune system. The megadoses are required to fully saturate all tissues so that all radicals can be neutralized and all immunosuppressive tendencies can be removed. In this way the immune system can provide the most effective attack on the pathogens. His recommendations to titrate to (ie: determine and prescribe) bowel tolerance levels, with frequent doses to maximize these levels, results in an intake of 40 to 100 g per day initially, > 100 g per day when secondary bacterial or viral infections are evident, and up to 185 g per day for moderate Kaposi sarcoma lesions. The decrease of bowel tolerance level is indicative of improvement in the patient's condition. During remission, AIDS patients must be on guard to detecting impending infections and begin large and frequent Vitamin C doses immediately upon detection.

Unfortunately, Cathcart's recommendations were based on 90 anecdotal AIDS patients that had self-prescribed Vitamin C in the past, and 12 of his own AIDS patients, 6 of whom had intravenous Vitamin C for a short period. The study can be faulted since it had no control group, and was not scientific (as it was based on anecdotal claims) (Pike, 1988). Cathcart however, claims that lack of financial support and facilities had prevented him from doing more controlled studies (Cathcart, 1984). He does cite one patient (given approximately 250 g per day) who showed repression of secondary AIDS symptoms (even though the basic HIV infection was not reversed) (Cathcart, 1984). Also, Cathcart's study can be faulted since the measure for "considerable improvement" was purely subjective. Finally, the results of his study do not appear to show that Vitamin C is effective because T4 cells remained suppressed in all patients. To this comment, Cathcart hypothesized that Vitamin C may also assist immune response by acting directly against the virus (as opposed to via the T-cells).

In vitro studies (Harakeh, Jariwalla, & Pauling, 1990) demonstrated some such possible action. These studies showed that extracellular reverse transcriptase (required to convert viral RNA to T4 host DNA) activity could be reduced by $> 99\%$, with 150 μg/mL Vitamin C levels, therefore inhibiting the uptake of viral RNA into the T4 cell DNA. The studies also showed that Vitamin C could block p24 antigen expression (which is required for HIV production) without blocking other, normal, cellular metabolism or protein synthesis. Finally, these studies showed an inhibition of viral infectivity at 100 μg/mL Vitamin C level.

Similar to the study cited by Cathcart (1984), these studies (Harakeh et al., 1990) showed that Vitamin C did not inactivate the virus, but rather, prevented its ability to allow secondary (AIDS) symptoms. From this, the authors hypothesized that high levels of Vitamin C (50 g per day intravenously would be more than ample to create the necessary plasma levels) may aid in suppressing AIDS symptoms. Even though these studies were carried out in vitro, they do present some very interesting information on the possible mechanism of Vitamin C against AIDS.

Possible Negative Effects of Vitamin C Megadosing

Although Vitamin C is a water soluble vitamin, intake of megadose quantities (as suggested by therapy) may lead to various detrimental effects. These include: renal calculi due to excessive oxalic acid production (Bureau of Nutrition Research, 1990; Harakeh, 1990; Kirsch, 1989), renal tubular disease (Barness, 1975), oxaluria or oxalosis (Barnes, 1975), acidosis (Barness, 1975), glycosuria (Barness, 1975), interference with copper absorption (Pike, 1988), destruction of Vitamin B12 in the tissues at levels greater than 0.5 g per day (Bureau of Nutrition Research, 1990; Barness, 1975), rebound scurvy (Bureau of Nutrition Research, 1990; Barness, 1975), abdominal distress and diarrhea at greater than 1 g per day (Bureau of Nutrition Research, 1990; Barness, 1975), prothrombin disturbances (Barness, 1975), cholesterol disturbances (Barness, 1975), sterility (Barness, 1975), enhancement of chromosome damage (Bissell, Hatie, Farson, Schwarz, & Soo, 1980), and production of increased amounts of possible carcinogens (Bissell et al., 1980).

Conclusion

AIDS is a devastating disease. It is encouraging to see that researchers are putting forth a great effort to find cures and therapies for it. The evidence, to date, of the efficacy of Vitamin C in AIDS, however, is mainly anecdotal. Thomas et al., (1978) conclude that since the exact role of Vitamin C is not known, there is no justification for Vitamin C megadosing. However, we must keep in mind that this role may not be discovered during the lifespan of current AIDS/HIV+ patients. We must consider the value of this advice and weigh it against the probability that megadoses of Vitamin C do have beneficial effects. We should consider Resler's (1988) reminder that AIDS patients are often well informed about their disease and need to play an active role in determining the therapies they will receive. We should also consider the potential placebo effect of the therapy which could give patients the added feeling of control and the incentive to continue to fight against the disease (Dwyer et al., 1988). As Kirsch (1989) notes, Vitamin C megadoses may keep patients feeling better and more energetic. Most importantly, we must keep in mind that these are patients who, as of now, are deteriorating and have no real hope of survival. Pike (1988), a nutritional instructor who pointed out the problems of Cathcart's studies at a recent symposium, found it difficult to reply when she was asked whether she would consider Vitamin C megadosing if she had AIDS. It is easy to rationalize and prescribe to others, but we must also have a very healthy respect for the desires of AIDS patients to try to care for themselves. The decision will therefore have to be tailored to the individual needs and desires of the patients. The role of professionals should therefore be restricted to maintaining and optimizing the quality of the other aspects (other dietary factors, comfort, psychological well-being, etc.) of the patient's life. □

References

Anderson, R., & Theron, A.J. (1990). Physiological potential of ascorbate, B-carotene, and α-tocopherol individually and in combination in the prevention of tissue damage, carcinogenesis and immune dysfunction mediated by phagocyte-derived reactive oxidants. *World Review of Nutrition and Dietetics, 62*, 27-28.

Barness, L.A. (1975). Safety considerations with. high ascorbic acid dosage. *Annals of the New York Academy of Sciences, 258*, 523-528.

Bendich, A. (1990). Antioxidant vitamins and their functions in immune responses. *Advances in Experimental Medicine and Biology, 262*, 35-55.

Bissell, M.J., Hatie, C., Farson, D.A., Schwarz, R.I., & Soo, W-J. (1990). Ascorbic acid inhibits replication and infectivity of avian RNA tumor virus. *Proceedings of the National Academy of Sciences (USA), 77*(5), 2711-2715.

Bureau of Nutrition Research. (1990). *Nutrition recommendations 1990.* Ottawa, ON: Health & Welfare Canada.

Cathcart, R.F. (1984). Vitamin C in the treatment of acquired immune deficiency syndrome (AIDS). *Medical Hypotheses, 14,* 423-433.

Center for Disease Control. (1989). Report as of January 2, 1989. *AIDS Weekly Surveillance Report.*

Center for Disease Control. (1990). Report as of December 1989. *HIV/AIDS Surveillance.*

Center for Disease Control. (1991). Report as of December 1990. *HIV/AIDS Surveillance.*

Dwyer, J.T., Bye, R.L., Holt, P.L., & Lauze, S.R. (1988). Unproven nutrition therapies for AIDS: What is the evidence? *Nutrition Today, 23*(2), 25-33.

Harakeh, S., Jariwalla, R.J., & Pauling, L. (1990). Suppression of human immunodeficiency virus replication by ascorbate in chronically and acutely infected cells. *Proceedings of the National Academy of Sciences (USA), 87*(9), 7245-7249.

Jain, V.K., & Chandra, R.K. (1984). Does nutritional deficiency predispose to acquired immune deficiency syndrome? *Nutrition Research, 4*(4), 537-543.

Kirsch, C. (1989). Nutrition & AIDS. In D. Snowden & D. Cassidy (Eds.), *AIDS: A Handbook for Professionals* (pp. (Eds.), 121-127). Toronto, ON: Carswell Company Ltd.

Pike, J.T. (1988). Alternative nutritional therapies and community resources. In *Nutritional & AIDS conference proceedings* (pp. 74-91). Campbell, CA: ARIS Project & Stanford AIDS Education Project.

Rene, P. (1989). An introduction to the Acquired Immune Deficiency Syndrome. In D. Snowden & D. Cassidy (Eds.), *AIDS: A Handbook for Professionals* (pp. 2-7). Toronto, ON: Carswell Company Ltd.

Resler, S.S. (1988). Nutrition care of AIDS patients. *Journal of the American Dietetic Association, 88*(7), 828-832.

Sauberlich, H.E. (1975). Vitamin C status: methods & findings. *Annals of the New York Academy of Sciences, 258,* 438-450.

Thomas, W.R., & Holt, P.G. (1978). Vitamin C and immunity: An assessment of the evidence. *Clinical & Experimental Immunology, 32*(2), 370-379.

Directrice ou directeur de l'École de nutrition et d'études familiales

L'École de nutrition et d'études familiales offre des programmes aux 1er et 2e cycles en nutrition et en études familiales. Son programme de nutrition est accrédité par l'Association canadienne des diététistes. D'importants projets de recherche sont en cours dans les domaines de la nutrition, de l'alimentation et de l'habitation. L'École est aussi engagée dans un programme coopératif d'alternance étude-travail. Elle comprend également un centre de recherche sur les aliments.

Sous l'autorité immédiate du vice-recteur à l'enseignement et à la recherche, la personne titulaire de ce poste assure le fonctionnement scolaire et administratif de l'École. Présidente du Conseil de l'École, cette personne dirige le personnel enseignant, veille à l'établissement des priorités en tenant compte des implications budgétaires, analyse et fait connaître les besoins de l'École, travaille au maintien des normes et coordonne les activités d'enseignement et de recherche du corps professoral. Elle préside le Bureau de direction du Centre de recherche sur les aliments et représente l'École au Sénat universitaire de même qu'au sein de plusieurs comités de l'Université.

La candidate ou le candidat doit posséder un doctorat ou une formation universitaire équivalente dans l'une des disciplines de l'École. De préférence, elle ou il devrait faire preuve d'expérience dans l'enseignement universitaire, la recherche et l'administration. Elle ou il doit démontrer des caractéristiques de leadership, un style participatif et une maîtrise de la langue française tant orale qu'écrite.

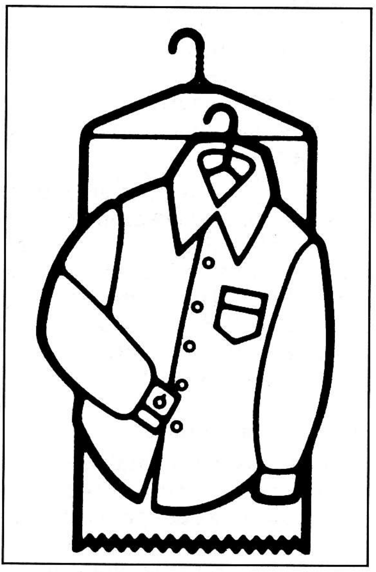
Date d'entrée en fonction : le 1er juillet 1992 pour un mandat régulier de cinq ans se terminant le 30 juin 1997. Les personnes intéressées sont priées de faire parvenir un curriculum vitae détaillé, un dossier professionnel complet et le nom de trois répondants à **M. Guy Savoie, directeur, Affaires professorales, Université de Moncton, Moncton (Nouveau-Brunswick) E1A 3E9.**

**UNIVERSITÉ
DE MONCTON**

La personne actuellement en poste peut également soumettre sa candidature pour renouvellement de mandat.

Conformément aux exigences relatives à l'immigration au Canada, ce poste est offert aux citoyennes et citoyens canadiens et aux résidentes et résidents permanents seulement.

Alternative Laundry Formulations: Their Effectiveness and Impact on Health and the Environment



Lee A. Tetreau

Abstract

A renewed interest in environmental issues has caused some individuals to re-examine the use of phosphates in detergents, and to recommend various alternatives. Environmental proponents suggest that the alternatives are acceptable replacements, but they do not provide adequate substantiation for their claims. Information was obtained from personal communications, a limited laboratory experiment, and a comprehensive literature review. It appears that soap may be a suitable environmental alternative if consumers are aware of and willing to accept lower cleanliness standards. The use of other compounds must be cautioned, however, because of unanswered questions regarding their effectiveness and potential impact on health and the environment.

Résumé

Un regain d'intérêt pour les questions environnementales a incité certaines personnes à revoir l'utilisation des phosphates dans les détergents, pour recommander différents produits de remplacement. Les protecteurs de l'environnement estiment que les substituts sont acceptables, mais ils ne fournissent pas suffisamment de preuves solides à l'appui. À partir de communications personnelles, d'une expérience limitée en laboratoire et d'une dépouillement complet de la documentation, on constate que le savon pourrait être un substitut valable pour l'environnement si le public accepte d'avoir du linge un peu moins propre. Par contre, nous le mettons en garde contre les autres produits, dont on ne connaît pas encore exactement l'efficacité et les effets possibles sur la santé et l'environnement.

In the 1960s, concern over the quality of inland waters prompted attention by the Canadian and the United States federal governments. The problem was that lakes and estuaries were being virtually choked out with excessive algae growth. In many waters this is a natural process known as eutrophication. In others, however, this process is accelerated due to sharp increases in nutrient supply from industrial effluent, agricultural run-off, and domestic sewage (Hall, 1980). Phosphate compounds were identified in 1969 as the major contributors to excessive algae growth, and should, therefore, be eliminated from detergents (McGucken, 1989). In 1973, an amendment to the Canadian Clean Water Bill restricted phosphates from as much as 50 percent to as little as "5 percent by weight as phosphorus pentoxide" (McGucken, 1989, p. 164).

Water quality experts were satisfied with the phosphate reductions and eventually the issue subsided (E. Prepas, personal communication, November 15, 1990). However, a major trend of the 1990s is a renewed interest in environmental issues, coined the *green* movement (Kohl, 1990; Tilton, 1990). Many environmentally concerned individuals are once again criticizing the use of phosphates in detergents, and are promoting alternative laundry formulations.

The purpose of this paper is to evaluate some of these alternatives to determine their effectiveness and safety to health and the environment. Several sources were used to gather information for the study. Experts of water quality (E. Prepas) and chemical disposal (M.A. Armour) were consulted and a representative (B. Coffey) of a major detergent manufacturer was interviewed. A small laboratory comparison was conducted and related literature was reviewed.

What Environmentalists Recommend

The suggestions made by several environmental proponents (Croucher, 1989; Environmental Resource Centre, 1990; Kohl, 1990; Stuart, 1990) were similar and focussed on developing home recipes rather than on the purchase of commercially prepared formulations. All recommended the use of soap as the main cleaning agent, plus the addition of at least one other ingredient. Washing soda (sodium carbonate) was suggested to improve cleaning power or to replace chlorine

---

Lee A. Tetreau BSc (HEc) has completed her coursework in the Clothing and Textiles Program at the University of Alberta.

Editor's Note: This paper was the 1990 second place winner of the Elizabeth Feniak Award for Excellence in Writing, sponsored by the Canadian Home Economics Foundation.

bleach. Washing soda is sold as a form of sodium carbonate, which is widely used as a builder in synthetic detergents (Handbook of Industry Terms, 1987). Phosphate-free products were encouraged somewhat, but particularly those made from natural ingredients.

None of the environmental publications identified background information regarding the testing of the recipes and only one indicated the limited effectiveness of the given alternative. It is unclear whether consumers should expect that the alternatives will meet existing cleanliness standards.

Effectiveness Studies

Since environmental proponents recommend using soaps and phosphate-free detergents, it is important to determine their effectiveness because "if a material does not do its intended job, there is no reason to proceed with safety evaluations" (Ashforth & Calvin, 1973, p. 309). The studies reviewed provide useful information to help predict the performance of soap alone or in combination with washing soda or borax.

Consumer agencies have studied the effectiveness of soap and several synthetic detergents, including phosphate-free products. Hibler (1986) and de Cotret (1986) agreed that soap did not perform well in hard water. The package for Ivory Snow included recommendations to double the amount of soap for hard water conditions, and Hibler was impressed with the results. She realized that this could become expensive, so she suggested adding a water softener instead of extra soap. She warned that consumers must be careful when selecting a softener because "there are no phosphate limits for softeners" (p. 26). There was little difference in the performance of the synthetic detergents, regardless of phosphate content (de Cotret, 1986). However, in both studies all products performed better in soft, warm water. Since only soil removal in this study was tested, redeposition was not evaluated and this is where the greatest difference should be evident.

Researchers compared the effectiveness of several built and unbuilt detergents. Unbuilt detergents were generally less effective than built detergents (Breen, Durnam, & Obendorf, 1984). Lovingood, Woodward, and Leech (1989) compared phosphate built, carbonate built, and unbuilt detergents in soil removal and redeposition tests. They found that in all soil removal tests the unbuilt liquid outperformed the carbonate built detergent. Results were inconsistent, but greying occurred progressively for all fabrics, regardless of detergent type. It was also noted that in both soft and hard water, the carbonate built detergent was the least effective and caused a white precipitate to form on fabrics. The amount of residue increased with the number of washings and the effect was accelerated with hard water. Fabrics washed with carbonate built detergents had poorer durable press ratings, lower strength retention, and more abrasion than did those washed with phosphate built detergents (Mohamed, 1982).

In addition to the literature reviewed, a small experiment was conducted by the author. It compared two environmental alternatives to a popular phosphate built detergent (ASTM Standards, 1990). The water used for washing and rinsing was carefully prepared to a hardness of 150 parts per million, and was maintained at 50°C to simulate a warm water wash.

Soap and soap/borax formulations were chosen as the alternatives to phosphate detergents. The amounts of soap and detergent which would be used were calculated from instructions on the packages. For the soap/borax combination, amounts were determined from recommendations made by the Environmental Resource Centre (1990). The instructions given on the box of soap advised doubling the amount for hard water. For these reasons, the soap wash contained twice as much soap as the soap/borax wash.

Standard soil test fabrics were used for determining soil removal. The unsoiled portion of each fabric along with additional white polyester test fabric were used to detect redeposition. All specimens were washed in the Terg-o-tometer for ten minutes and rinsed for three minutes at 90 cycles/minute. For each test, there was only one wash per specimen, although three replications of each test were used. Light reflectance measurements were taken from all fabrics using the Hunterlab Colorimeter before and after each washing. Measurements for each test were averaged and then standard deviations and changes in reflectance were calculated.

In general, soap was more effective than the phosphate detergent at soil removal. It must be remembered that the amount of soap was doubled; a reduction would reduce its performance. Since phosphate built detergents contain so little phosphate, the contribution of phosphate itself was probably minimal. Nonetheless, the phosphate detergent was the most effective at preventing soil redeposition. This effect would become more evident with repeated washings. The soap/borax combination proved to be the least effective in almost every case. Visual inspection also revealed that the washed specimens appeared only slightly cleaner than the original, unwashed specimens.

Environment and Health Implications

Many chemical compounds that are considered relatively harmless to human health and the environment have the potential to cause serious problems when used in large quantities, such as in detergents (M.A. Armour, personal communication, October 9, 1990). It is unwise to recommend widespread use of an alternative without first considering the potential impact of its use.

Soap has been widely used in the years before synthetic detergents, apparently without adverse environmental effects. However, one by-product from soap production is a caustic solution containing lye and emulsified fats which may have serious implications for disposal (B. Coffey, personal communication, December 13, 1990). Because natural fats are required for the production of soap, "increased soap production would occur in competition with the food industry" (Environmental Resources Ltd. [ERL], 1978, p. 95). Thus the feasibility of the widespread use of soap as an alternative to synthetic detergents is questionable.

Borax breaks down to boron, an element which has been found to cause some adverse environmental effects. ERL (1978) indicated that boron is not significantly removed from sewage and as a result, it enters natural waters. Although fish show remarkable tolerance to high levels of boron, it appears that mammals are much more susceptible to toxicity from boron. It has been noted that boron exists in the human diet in concentrations of approximately 1-20 mg/day, but ingesting 4000 mg/capita/day would be toxic, thereby classifying boron as a moderately toxic element (Bowen, cited by ERL, 1978, p. 105). Similarly, ingestion "of 5 to 10 g [of borax] by young children can cause severe vomiting, diarrhea, shock, death" (Windholtz, 1983, p. 1231). If borax is to be used for household purposed, it must be treated like other hazardous products; precautions must be taken in use and storage.

Carbonates and silicates occur naturally in waters. Carbonates have been found in some cases to be a limiting factor in algae growth, although it is agreed that carbon is of less importance than nitrogen or phosphorus (ERL, 1978; Schindler, 1977). Schindler indicated that lakes have a strong tendency to compensate for deficiencies in carbon in part by using carbon from the atmosphere. He noted that for this reason, attempts to control carbon would not be particularly successful. Similarly, silicates establish equilibrium concentrations in natural waters and are unlikely major contributors to eutrophication (Jenkins, Kaufman, McGauhey, Horne, & Gasser, 1973).

While carbonates and silicates do not appear to threaten water quality, they are both highly corrosive compounds and health concerns arise. Dermal reactions are likely to occur with repeated exposure to carbonates (Windholtz, 1983). If ingested, carbonates could cause "corrosion of the G.I. tract, vomiting, diarrhea, circulatory collapse, death" (Windholtz, 1983, p. 1232). Ingestion of silicates could also result in vomiting and gastric bleeding. At high concentrations, sodium silicate is dangerous to aquatic life and is toxic to humans at concentrations of 0.5-5g/Kg (Weiss, 1986).

It is generally agreed that citrates are readily biodegradable and pose no threat to public health or to the environment (ERL, 1978; Jenkins et al., 1973). Citrates, unlike carbonates and silicates, are organic compounds. If used to entirely replace phosphates, citrates would increase biological oxygen demand which may cause problems in waste treatment systems.

Nitrilotriacetic acid (NTA) is likely the most controversial replacement for phosphates used in detergents because of uncertainties about its safety and effects on the environment. While used extensively in Canadian formulations, NTA was banned from the U.S. market until the mid 1980s (ERL, 1978; Kruus & Valeriote, 1984). Part of the controversy centers around findings that nitrogen, like phosphorus, can be the limiting factor in algae growth, depending on the species and the waterbody itself (Ashforth & Calvin, 1973; ERC, 1978; Jenkins et al., 1973).

Sources agree that the biodegradation of NTA improves at elevated temperatures and when total nitrogen loading at sewage facilities is low (Epstein, 1972; Prakash, 1976; Shannon & Kamp, 1973; Thom, 1971). For countries such as Canada where winter temperatures are usually subzero, this has negative implications. Ironically, it is the breakdown of NTA to intermediary compounds such as nitrates which is cause for concern. Elevated levels of nitrates in drinking water are found to induce methaemoglobinaemia (blue baby syndrome) in infants (Epstein, 1972; Thom, 1971; Viraghavan, 1987). No evidence concluded that the NTA compound was toxic, but Viraghavan (1987) stated that "high levels of nitrate ingestion may be a contributing factor in gastric cancer" (p. 89). Epstein (1972) and Thom (1971) warned that as a strong chealator, NTA would bind with heavy metals such as mercury and cadmium. If undergraded at sewage facilities, NTA could carry these metals to receiving waters and drinking water supplies. Unfortunately, little is known about these metal complexes. It is obvious that NTA has hardly been proven safe to health or the environment.

Hunter, da Motta Marques, Lester, and Perry (1988) reviewed polycarboxylic acids (other than NTA) as builders in detergents. In general, polycarboxylic acids exhibit poor degradation, and some which degrade better are less effective builders. Characteristics in waste water treatment and of heavy metal complexes are unknown. Because of unanswered questions and conflicting data, Hunter et al., (1988) recommended further investigation into the behavior of these compounds.

Conclusions

Well-meaning environmental proponents advocate the use of laundry products which do not contain phosphates. The environmental publications do not indicate, however, to what degree the alternatives are proven effective. No home remedy or detergent seemed to remove soil well under all conditions. Greying due to soil redeposition occurred with all fabrics, but particularly with soap, and carbonate built detergents. Sodium carbonate, therefore, is not likely to contribute much to improving the performance of soap. It must be emphasized that the acceptance of soap will largely depend on consumers' expectations and satisfaction with its performance under various washing conditions. Consumers might be willing to accept lower standards for whiteness in favor of a cleaner environment, if they are made aware of the trade-off.

There is concern that some products are not as environmentally *friendly* as originally thought. A compound is not necessarily harmless because it biodegrades or exists naturally in the environment. Ecosystems are delicately balanced and one cannot accurately predict every effect of widespread use of certain compounds. While soap alone may be an acceptable product from an environmental perspective, the addition of other more hazardous chemicals would be pointless. In fact, an entirely new set of problems could emerge. ☐

References

A handbook of industry terms. (1987). The Soap and Detergent Association..

American Society for Testing and Materials. (1990). Standard Method for measuring soil removal from artificially soiled fabrics. *Annual Book of ASTM Standards, 15.04,* 325-326.

Ashforth, G.K., & Calvin, G. (1973). Safety evaluation of substitutes for phosphates in detergents. *Water Research, 7,* 309-320.

Breen, N.E., Durnam, D.J., & Obendorf, A.K. (1984). Residual oily soil distribution on polyester/cotton fabric after laundering with selected detergents at various wash temperatures. *Textile Research Journal, 54,* 198-204.

Croucher, C. (1989). *Recipes and tips for the environment friendly household.* (Available from Canadian Broadcasting Corporation, 7909-51 Avenue, Edmonton, Alberta).

de Cotret, L.R. (1986, September). Laundry detergents. *Protect Yourself,* pp. 70-76.

Environmental Resource Centre. (1990). *Household hazardous waste.* (Available from Environmental Resource Centre, 10511 Saskatchewan Drive, Edmonton, Alberta).

Environmental Resources Ltd. (1978). *Cleaning and conditioning agents: Their impact on the environment in the EEC.* London: Graham & Trotman.

Epstein, S.S. (1972). Toxicological and environmental implications in the use of nitrilotriacetic acid as a detergent builder. Part 1. *International Journal of Environmental Studies, 2,* 291-300.

Hall, E.R. (1980). *Nutrient sources.* Paper presented at the Nutrient Control Technology Seminar, Calgary, Alberta, Canada.

Hibler, M. (1986, April). Laundry detergents: Old fashioned soap powder beat the liquids. *Canadian Consumer,* pp. 22-26.

Hunter, M., da Motta Marques, D.M.L., Lester, J.N., & Perry, R. (1988). A review of the behavior and utilization of polycarboxylic acids as detergent builders. *Environmental Technology Letters, 9,* 1-22.

Jenkins, D., Kaufman, W.J., McGauhey, P.H., Horne, A.J., & Gasser, J. (1973). Environmental impact of detergent builders in California waters. *Water Research, 7,* 265-281.

Kohl, H. (1990). Earthly goods. *Canadian Consumer, 7 & 8,* 9-22.

Kruus, P., & Valeriote, I.M. (1984). *Controversial chemicals. A citizens' guide* (2nd ed.) Montreal, PQ: Multiscience.

Livingood, R.P., Woodward, J.E., & Leech, I.E. (1989). Three types of laundry detergents: Performance in soft and hard water. *Home Economics Research Journal, 17,* 253-262.

McGucken, W. (1989, Fall/Winter). The Canadian federal government, cultural eutrophication, and the regulation of detergent phosphates, 1970. *Environmental Review,* pp. 155-166.

Mohamed, S.S. (1982). Comparison of phosphate and carbonate built detergents for laundering polyester/cotton. *Textile Chemist and Colorist, 14*(3), 37-39.

Prakash, A. (1976). *NTA (Nitrilotriacetic acid) - an ecological appraisal.* Ottawa, ON: National Research Council.

Schlindler, D.W. (1977). Evolution of phosphorus limitation in lakes. *Science, 195,* 260-262.

Shannon, E.E., & Kamp, L.J. (1973). *Detergent substitution studies at CFS Glouchester,* (Technology Development Report EPS 4-WP-73-3). Glouchester: Environment Canada.

Stuart, P. (1989). Back to borax. *Canadian Living, 14*(11), 159-165.

Thom, N.S. (1971). Nitrilotriacetic acid: A literature survey. *Water Research, 5,* 391-399.

Tilton, H. (1990, January 29). Detergents seek 'greener' pastures. *Chemical Marketing Reporter,* pp. 8-10.

Viraghavan, T. (1987). Nitrogen budget and septic tank systems — an appraisal. *Water Supply, 6,* 89-91.

Weiss, G. (Ed.). (1986). *Hazardous chemicals data book,* (2nd ed.). Parkridge, NJ: Noyes Data.

Windholtz, N. (Ed.). (1983). *The Merck index. An encyclopedia of chemicals, drugs, and biologicals,* (10th ed.). Rahway, NJ: Merck & Co.

Home economists have a goal:

to improve the quality of life for families.

Invest in families

A donation to the Canadian Home Economics Association Foundation will help support the effective dissemination of information on nutrition, clothing, shelter, and financial management to families in Canada – through research, development of educational tools and techniques and public service projects.

Send your contribution to:

Canadian Home Economics Association Foundation
c/o Treasurer
3807 Vialoux Drive
Winnipeg, Manitoba R3R 0A5

My contribution of $ ____________ is enclosed.

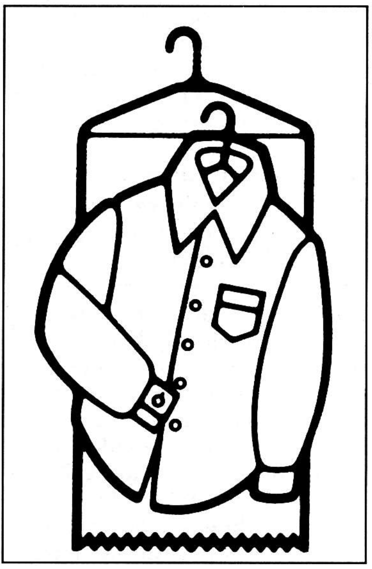
Name ______________________________

Address ______________________________

____

Registration number 0589242-23-10. Tax deductible receipt issued.

Produits de remplacement pour la lessive : leur efficacité et leur répercussion sur la santé et l'environnement



Lee A. Tetreau

Résumé

Le renouveau d'intérêt pour l'environnement a incité des personnes à réexaminer l'utilisation du phosphate dans les détergents et à recommander diverses solutions de rechange. Les promoteurs de l'environnement suggèrent que les produits de remplacement sont acceptables, mais qu'ils ne répondent pas adéquatement à leurs revendications.Les renseignements viennent de communications personnelles, d'une expérience restreinte en laboratoire et d'une étude globale de documents. Il semble que le savon pourrait être un produit de remplacement convenable à condition que les consommateurs comprennent qu'ils doivent s'habituer à des normes de propreté moins élevées. Cependant, on doit faire une mise en garde sur l'utilisation d'autres composés à cause de questions qui restent sans réponse en ce qui concerne leur efficacité et leurs répercussions possibles sur la santé et l'environnement.

Abstract

A renewed interest in environmental issues has caused some individuals to re-examine the use of phosphates in detergents, and to recommend various alternatives. Environmental proponents suggest that the alternatives are acceptable replacements, but they do not provide adequate substantiation for their claims. Information was obtained from personal communications, a limited laboratory experiment, and a comprehensive literature review. It appears that soap may be a suitable environmental alternative if consumers are aware of and willing to accept lower cleanliness standards. The use of other compounds must be cautioned, however, because of unanswered questions regarding their effectiveness and potential impact on health and the environment.

Durant les années 1960, le souci de la qualité des eaux intérieures a attiré l'attention des gouvernements fédéraux des États-Unis et du Canada. Le problème : une croissance excessive d'algues engorgeait virtuellement les lacs et les estuaires. Dans plusieurs eaux, ceci est un processus naturel qu'on appelle eutrophisation. Dans d'autres, toutefois, ce processus est accéléré par une augmentation marquée de substances nutritives provenant des effluents industriels, des écoulements agricoles et des deux d'égouts (Hall, 1980). En 1969, on a identifié des composés phosphatés comme les facteurs majeurs du développement excessif d'algues; les phosphates devraient donc être éliminés des détergents (McGucken, 1989). En 1973, un amendement au projet de loi sur la protection des eaux canadiennes baissa le taux des phosphates de 50 % jusqu'à «5 % du poids comme pentoxxyde de phosphore» (McGucken, 1989, p. 164).

Les experts de la qualité des eaux furent satisfaits de cette diminution de l'usage des phosphates et on cessa peu à peu d'en parler (E. Prepas, communication personnelle, le 15 novembre 1990). Cependant, les années 1990 démontrent un renouveau d'intérêt pour les questions concernant l'environnement; c'est ce qu'on appelle le mouvement écologiste ou mouvement vert (Kohl, 1990; Tilton, 1990). De nombreux environnementalistes critiquent de nouveau l'utilisation des phosphates dans les détergents et proposent des produits de remplacement.

Ce texte a pour but d'évaluer certaines de ces solutions de rechange afin de déterminer leur efficacité et leur sécurité pour la santé et l'environnement. Nos renseignements proviennent de plusieurs sources. Nous avons consulté des experts sur la qualité des eaux (E. Prepas) et sur l'évacuation de

---

Lee A. Tetreau BSc(HEc) a terminé ses travaux dans le cadre du programme sur l'habillement et les textiles de l'Université de l'Alberta. Lors de la collation des grades du 3 juin 1991, elle recevra son baccalauréat ès sciences en économie familiale.

Note de l'éditeur : Ce texte s'est classé deuxième pour le prix Elizabeth Feniak pour excellence en écriture; ce prix est subventionné par la Fondation canadienne d'économie familiale et décerné aux étudiantes et étudiants en économie familiale.

déchets chimiques (M.A. Armour), interviewé un représentant (B. Coffey) d'un important fabricant de détergents, procédé à une petite comparaison en laboratoire et étudié la documentation reliée à ce domaine et qu'on retrouve dans des livres, des revues de consommateur et des journaux périodiques de recherches.

Les recommandations des environnementalistes

Les suggestions faites par plusieurs environnementalistes (Croucher, 1989; Environmental Resource Centre, 1990; Kohl, 1990; Stuart, 1990) se ressemblent et prônent le développement de recettes maison plutôt que l'achat de produits commerciaux. Tous recommandent l'usage du savon comme agent nettoyant principal, auquel on ajoute au moins un autre ingrédient. On suggère d'utiliser les cristaux de soude (carbonate de sodium) pour augmenter le pouvoir de nettoyage et pour remplacer le blanc de lessive au chlore. Les cristaux de soude sont vendus comme une forme de carbonate de sodium, qui est fréquemment utilisé comme adoucisseur dans la préparation de détergents synthétiques (Handbook of Industry Terms, 1987). On recommande surtout les produits sans phosphate, et plus particulièrement ceux fabriqués à partir d'ingrédients naturels.

Aucune des publications sur l'environnement ne contenait des renseignements généraux sur l'essai des recettes et une seule d'entre elles en indiquait l'efficacité restreinte. On ne sait pas encore très bien si le consommateur peut s'attendre à ce que ces produits de remplacement respectent les normes de propreté actuelles.

Études sur l'efficacité

Puisque les défenseurs de l'environnement recommandent l'utilisation de savons et de détergents sans phosphate, il est important de déterminer leur efficacité, car «si un produit ne donne pas le rendement attendu, il n'y a aucune raison d'en évaluer la sûreté» (Ashforth & Calvin, 1973, p. 309). Les documents étudiés fournissent des renseignements utiles pour prédire la performance du savon, utilisé seul ou avec des cristaux de soude ou du borax.

Des agences de consommateurs ont étudié l'efficacité du savon et d'un bon nombre de détergents synthétiques, y compris des produits sans phosphate. Hibler (1986) et de Cotret (1986) sont d'accord que le savon ne nettoie pas bien dans l'eau dure. L'emballage de Ivory Snow recommande de doubler le montant de savon dans l'eau dure : Hibler fut impressionné par les résultats. Se rendant compte que ceci pourrait finir par coûter cher, elle suggéra donc d'ajouter un adoucisseur à l'eau plutôt que d'augmenter la quantité de savon. Elle avertit les consommateurs d'être prudents lors du choix d'un adoucisseur, car aucune limite n'existe pour ce qui est de la quantité de phosphate utilisée dans la fabrication d'adoucisseurs (p. 26). La performance des détergents synthétiques diffère très peu, indépendamment de la quantité de phosphate (de Cotret, 1986). Cependant, les deux études indiquent que tous les produits donnèrent un meilleur rendement dans l'eau douce et chaude. Puisque seule l'élimination de la saleté faisait l'objet des études, le problème des dépôts successifs n'a pas été évalué; et c'est là que devrait ressortir la plus grande différence.

Les chercheurs ont comparé l'efficacité de plusieurs détergents avec ou sans adoucisseur. Les détergents sans adoucisseur étaient généralement moins efficaces que les détergents avec adoucisseur (Breen, Durnam & Obendorf, 1984). Lovingwood, Woodward et Leech (1989) ont comparé des détergents à base de phosphate, à base de carbonate et sans adoucisseur pour évaluer leur capacité d'éliminer la saleté et les dépôts successifs. Ils ont découvert que les liquides sans adoucisseur éliminaient mieux la saleté que les détergents à base de carbonate. Les résultats présentaient des contradictions mais, peu à peu, du grisage apparut sur tous les tissus, et cela indépendamment des détergents utilisés. On nota également que, tant dans l'eau dure que dans l'eau douce, les détergents à base de carbonate étaient les moins efficaces et causaient la formation d'un précipité blanc sur les tissus. Ce résidu augmenta à chaque lavage et l'eau dure accéléra cet effet. Les tissus lavés avec des détergents à base de carbonate restaient pressés moins longtemps, conservaient leurs propriétés de résistance également moins longtemps et montraient plus d'usure que ceux lavés avec des détergents à base de phosphate (Mohamed, 1982).

En sus des documents traitant du sujet, nous avons fait une petite expérience. Il s'agissait de comparer deux produits de remplacement écologiques à un détergent à base de phosphate populaire (ASTM Standards, 1990). L'eau du lavage et du rinçage fut soigneusement préparée (dureté de 150 parties par million) et maintenue à une température de 50°C afin de simuler un lavage à l'eau chaude.

Des formulations de savon et d'autres de savon et borax furent choisies comme produits de remplacement des détergents à base de phosphate. Les quantités de savon et de détergent furent calculées d'après les indications sur les emballages. Pour la formulation de savon et borax, les quantités furent déterminées selon les recommandations du Environmental Resource Centre (1990). Les indications sur la boîte de savon recommandaient d'en doubler la quantité dans l'eau dure. C'est pour ces raisons que le lavage au savon contenait deux fois plus de savon que le lavage au savon et borax.

On employa des tissus utilisés normalement dans les tests destinés à évaluer la capacité d'éliminer la saleté. La partie non souillée de chaque tissu de même que du tissu en polyester blanc servirent à repérer les dépôts successifs. On lava tous les échantillons dans le terg-O-mètre pendant dix minutes et on les rinça durant trois minutes à 90 cycles par minute. Chaque test comprenait un lavage d'une échantillon; on utilisa toutefois trois reprises de chaque test. À l'aide du chlorimètre Hunterlab, on mesura la réflectance à la lumière de chaque tissu, avant et après chaque lavage. On calcula d'abord la moyenne de chaque test et, ensuite, les déviations normales et les changements dans la réflectance.

En général, le savon réussit plus efficacement à éliminer la saleté que le détergent à base de phosphate. Il est important de se rappeler qu'on avait doublé la quantité de savon; une réduction de la quantité diminuerait sa performance. Les détergents à base de phosphate contiennent si peu de phosphate que l'effet du phosphate était probablement minime. Néanmoins, le détergent à base de phosphate s'avéra le plus effiicace dans la prévention de dépôts successifs. Cet effet deviendrait encore plus évident à chaque lavage. Dans presque tous les cas, c'est la formulation savon et borax qui se révéla la moins efficace. Une inspection visuelle révéla aussi que les échantillons lavés semblaient à peine un peu plus propres que les échantillons de départ non lavés.

Les répercussions sur la santé et l'environnement

Plusieurs composés chimiques, considérés relativement inoffensifs pour les humains et pour l'environnement, peuvent causer de sérieux problèmes lorsqu'ils sont utilisés en grande quantité, comme c'est le cas dans les détergents (M.A. Armour, communication personnelle, le 9 octobre 1990). Il n'est pas sage de recommander une généralisation de l'utilisation d'un produit de remplacement sans d'abord prendre en considération les répercussions d'une telle utilisation.

Avant l'apparition des détergents synthétiques, on utilisait largement le savon, sans effet néfaste apparent pour l'environnement. Cependant, un dérivé de la fabrication du savon, soit un liquide corrosif comprenant de la lessive et des matières grasses émulsionnées, pourraient causer de sérieux problèmes au moment de l'élimination (B. Coffey, communication personnelle, le 13 décembre 1990). De plus, parce que la fabrication du savon requiert l'utilisation de matières grasses naturelles, une «production accrue de savon entrerait en compétition avec l'industrie alimentaire» (Environmental Resources Ltd. [ERL] 1978, p. 95). On peut donc se poser des questions quant à la faisabilité d'étendre l'utilisation du savon comme produit de remplacement des détersifs synthétiques.

Le borax se dégrade en bore, élément reconnu nocif pour l'environnement. En 1978, ERL indiquait que seule une infime partie du bore n'est éliminée des eaux d'égouts et qu'en conséquence, il s'infiltre dans les eaux naturelles. Si les poissons tolèrent bien des niveaux passablement élevés de bore, il semble que les mammifères soient plus prédisposés à l'intoxication par le bore. On a noté une concentration d'environ 1 à 20 mg par jour de bore dans le régime d'alimentation humain; cependant, une consommation de 4000 mg par habitant par jour serait toxique, ce qui place le bore dans la catégorie des élements moyennement toxiques (Bowen, cité par ERL, p. 105). Dans le même ordre d'idées, l'ingestion de «5 à 10 [de borax] par de jeunes enfants peut causer de graves vomissements, la diarrhée, un état de choc, la mort» (Windholtz, 1983, p. 1231). Si on utilise le borax est à des fins de travaux ménagers, on doit le traiter comme tout autre produit dangereux et prendre des précautions lors de son utilisation et de son entreposage.

Les carbonates et les silicates existent à l'état naturel dans l'eau. On a découvert que, dans certains cas, le carbonate était un facteur limitant pour le développement d'algues, même si on s'entend sur le fait que le carbone revêt moins d'importance que l'azote ou le phosphore (ERL, 1978; Schindler, 1977). Selon Schindler, les lacs ont une forte tendance à compenser la carence de carbone en utilisant en partie le carbone de l'atmosphère. Il note que, pour cette raison, il serait plutôt vain de tenter de contrôler le carbone dans l'eau. Dans le même ordre d'idées, les silicates établissent une concentration d'équilibre des eaux naturelles; il est donc improbable qu'ils soient un des facteurs principaux de l'eutrophisation (Jenkins, Kaufman, McGauhey, Horne & Gasser, 1973).

Même si les carbonates et les silicates ne semblent pas menacer la qualité des eaux, ils sont tous deux des composés corrosifs, ce qui suscite des inquiétudes pour la santé. Des réactions cutanées peuvent fort bien apparaître à la suite d'expositions répétées aux carbonates (Windholtz, 1983). Dans le cas d'ingestion, les carbonates pourraient causer «des brûlures à la voie gastrique, des vomissements, le diarrhée, un collapsus circulatoire, la mort» (Windholtz, 1983, p. 1232). L'ingestion de silicates peut aussi être la cause de vomissements et de saignements gastriques. En quantité concentrée, le silicate de sodium s'avère dangereux pour la vie aquatique; lorsqu'il atteint des concentrations de 0,5 à 5 g par kg, il devient toxique pour l'être humain (Weiss, 1986).

Tout le monde est d'accord que les citrates sont facilement biodégradables et ne menacent aucunement la santé ou l'environnement (ERL, 1978; Jenkins et al., 1973). Les citrates, contrairement aux carbonates et aux silicates, sont des composés organiques. S'ils étaient utilisés pour remplacer entièrement le phosphate, ils augmenteraient la demande biologique en oxygène, ce qui en retour pourrait soulever des problèmes lors du traitement des eaux usées.

L'acide nitrilotriacétatique (N.T.A.) est probablement la substance la plus controversée utilisée pour remplacer le phosphate dans les détergents, à cause d'incertitudes quant à sa sûreté et à ses effets sur l'environnement. Utilisé largement dans les formulations canadiennes, le N.T.A. a été interdit aux États-Unis jusqu'au milieu des années 1980 (ERL, 1978; Kruus & Valeriote, 1984). Cette controverse repose en grande partie sur les découvertes que l'azote, comme le phosphore, peut être le facteur limitant le développement d'algues, tout dépendant des espèces et de la masse d'eau elle-même (Ashforth & Calvin, 1973; ERC, 1978; Jenkins et al., 1973).

Les différentes sources sont d'accord que la biodégradation du N.T.A. s'accélère à des températures plus élevées et lorsque la charge totale d'azote aux usines d'épuration est faible (Epstein, 1972; Prakash, 1976; Shannon & Kamp, 1973; Thom, 1971). Dans des pays comme le Canada, où la température se maintenant habituellement sous zéro en hiver, ceci entraîne des répercussions négatives. Ironiquement, c'est la dégradation du N.T.A. en composés intermédiaires, tels les nitrates de soude, qui soulève des inquiétudes. On sait que des niveaux élevés de nitrates dans l'eau potable provoquent la méthémoglobinémie (syndrome du nouveau-né atteint de la maladie bleue) chez les enfants (Epstein, 1972; Thom, 1971; Viraghavan, 19877). Aucune évidence ne permet de conclure que le composé N.T.A. est toxique, mais Viraghavan (1987) affirme que «l'ingestion de grandes quantités de nitrate peut causer le cancer gastrique» (p. 89). Epstein (1972) et Thom (1971) avertirent qu'en tant que chélateur puissant, le N.T.A. s'amalgamerait aux métaux lourds tels le mercure et le cadmium. S'il n'est pas dégradé aux installations d'égouts, le N.T.A. pourrait transporter ces métaux jusqu'aux eaux réceptrices et aux réserves d'eau potable. Malheureusement, on en sait très peu sur ces complexes de métaux. Il reste évident qu'on n'a pas prouvé que le N.T.A. est sans danger pour la santé ou l'environnement.

Hunter, da Motta Marques, Lester et Perry (1988) ont étudié l'utilisation des acides polycarboxyliques (autres que le N.T.A.) comme adoucisseurs dans les détergents. En général, les acides polycarboxyliques font preuve de mauvaise dégradation, et ceux qui se dégradent mieux se révèlent les adoucisseurs les moins efficaces. On ne sait rien des caractéristiques lors du traitement des eaux usées et des complexes des métaux lourds. À cause des questions qui restent sans réponse et des données contradictoires, Hunter et al., (1988) recommandèrent une analyse plus approfondie du comportement de ces composés.

Conclusion

Des promoteurs de l'environnement bien intentionnés préconisent l'emploi de produits pour la lessive qui ne contiennent pas de phosphates. Les publications sur l'environnement ne précisent pas, toutefois, le degré d'efficacité des produits de remplacement. Aucun produit maison ou détergent ne semble éliminer efficacement la saleté dans toutes les conditions. Le grisage dû aux dépôts successifs est apparu sur tous les tissus, tout particulièrement après l'utilisation du savon et des détergents à base de carbonates. Il semble donc que le carbonate de sodium ne pourra pas contribuer à améliorer la performance du savon. On doit souligner que l'acceptation du savon dépendra en grande partie des attentes des consommateurs et de leur satisfaction quant à son rendement dans différentes conditions de lavage. Les consommateurs seraient peut-être prêts à sacrifier un peu de blancheur pour un environnement plus propre, mais encore faut-ils qu'ils soient informés des choix qui se présentent à eux.

On craint que certains produits ne soient pas aussi «écologiques» qu'on le croyait au départ. Un composé n'est pas nécessairement inoffensif parce qu'il est biodégradable ou parce qu'il existe à l'état naturel dans l'environnement. L'équilibre des écosystèmes est délicat, et on ne peut prédire avec précision tous les effets d'une utilisation répandue de certains composés. Bien que le savon tout seul soit un produit acceptable du point de vue de l'environnement, y ajouter des produits chimiques dangereux n'aurait aucun sens. En fait, toute une nouvelle série de problèmes pourrait surgir. □

Références

American Society for Testing and Materials. (1990). Standard Method for measuring soil removal from artificially soiled fabrics, *Annual Book of ASTM Standards, 15.04*, p. 325-326.

Ashforth, G.K., & Calvin, G. (1973). Safety evaluation of substitutes for phosphates in detergents. *Water Research, 7*, p. 309-320.

Breen, N.E., Durnam, D.J., & Obendorf, A.K. (1984). Residual oily soil distribution on polyester/cotton fabric after laundering with selected detergents at various wash temperatures. *Textile Research Journal, 54*, p. 198-204.

Croucher, C. (1989). *Recipes and tips for the environment friendly household.* (disponible à la Société Radio-Canada, 7909-51 Avenue, Edmonton (Alberta)).

de Cotret, L.R. (1990, septembre). Laundry detergents. *Protect Yourself.* p. 70-76.

Environmental Resource Centre. (1990) *Household hazardous waste,* (disponible au Environmental Resource Centre, 10511 Saskatchewan Drive, Edmonton (Alberta)).

Environmental Resources Ltd. (1978). *Cleaning and conditioning agents: Their impact on the environment in the EEC,* London, Graham & Trotman.

Epstein, S.S. (1972). Toxicological and environmental implications in the use of nitrilotriacetic acid as a detergent builder, Part 1, *International Journal of Environmental Studies, 2*, p. 291-300.

Hall, E.R. (1980). *Nutrient sources.* Texte présenté dans le cadre du Nutrient Control Technology Seminar à Calgary (Alberta), Canada.

Hibler, M. (1986, avril) Laundry detergents: Old fashioned soap powder beat the liquids, *Canadian Consumer*, p. 22-26.

Hunter, M., da Motta Marques, D.M.L., Lester, J.N., & Perry, R. (1988). A review of the behavior and utilization of polycarboxylic acids as detergent builders, *Environmmental Technology Letters 9*, p. 1-22.

Jenkins, D., Kaufman, W.J., McGauhey, P.H., Horne, A.J., & Gasser, J. (1973). Environmental impact of detergent builders in California waters, *Water Research, 7*, p. 265-281.

Kohl, H. (1990). Earthly goods, *Canadian Consumer, 7 & 8*, p. 9-22.

Kruus, P., & Valeriote, I.M. (1984). *Controversial chemicals. A citizens' guide* (2nd ed.), Montréal, Multiscience.

Lovingood, R.P., Woodward, J.E., & Leech, I.E. (1989). Three types of laundry detergents: Performance in soft and hard water, *Home Economics Research Journal, 17*, p. 253-262.

McGucken, W. (1989, automne-hiver). The Canadian federal government, cultural eutrophication, and the regulation of detergent phosphates, 1970. *Environmental Review*, p. 155-166.

Mohamed, S.S. (1983). Comparison of phosphate and carbonate built detergents for laundering polyester/cotton, *Textile Chemist and Colorist 14(3)*, p. 37-39.

Prakash, A. (1976). *NTA (Nitrilotriacetic acid) — an ecological appraisal,* Ottawa, Conseil national de recherches.

Schlindler, D.W. (1977). Evolution of phosphorus limitation in lakes, *Science, 195*, p. 260-262.

Shannon, E.E., & Kamp, L.J. (1973). *Detergent substitution studies at CFS Gloucester,* (Technology Development Report EPS 4-WP-73-3), Gloucester, Environnement Canada.

Stuart, P. (1989). Back to borax, *Canadian Living, 14(11)*, p. 159-165.

The Soap and Detergent Association. (1987). *A Handbook of industry terms.*

Thom, N.S. (1971). Nitrilotriacetic acid: A literature survey, *Water Research, 5*, p. 391-399.

Tilton H. (1990, 29 janvier). Detergents seek 'greener' pastures, *Chemical Marketing Reporter*, p. 8-10.

Viraghavan, T. (1987). Nitrogen budget and spetic tank systems — an appraisal, *Water Supply, 6*, p. 89-91.

Weiss, G. (Ed.) (1986). *Hazardous chemicals data book,* (2nd ed.), Parkridge, NJ, Noyes Data.

Windholtz, N. (Ed.) (1983). *The Merck index. An encyclopedia of chemicals, drugs, and biologicals,* (10th ed.), Rahway, NJ, Merck & Co.

Divorce Policy in Canada

Beverly J. Pain

Abstract

With one in three marriages expected to end in divorce, it is important that Canadians gain some understanding of divorce policy in Canada. Laws pertaining to divorce have been largely based on English law and prior to 1968, varied from province to province. Today, the Divorce Act, 1985, governs divorce in Canada. With the institution of this act, changes were made to the grounds for divorce, joint petitions, custody issues, and spousal maintenance. Where many of the changes are considered favorable, other changes such as the awarding of spousal maintenance have been particularly hard on women. Further refinements to divorce laws in Canada need to be made.

Résumé

Comme un mariage sur trois aboutira probablement à un divorce, il faut que les Canadiens connaissent un peu la politique de leur pays en matière de divorce. La législation est presque calquée sur le droit anglais et, avant 1968, variait d'une province à l'autre. Aujourd'hui, tout relève de la Loi de 1985 sur le divorce au Canada. Ce texte a modifié les motifs du divorce, les requêtes mutuelles, les problèmes de garde des enfants et les pensions alimentaires. Beaucoup de changements sont considérés comme positifs, mais d'autres, tel l'octroi d'une pension alimentaire au conjoint, sont particulièrement difficiles pour les femmes. La législation canadienne sur le divorce a encore besoin d'être améliorée

Many aspects of Canadian family life are regulated by both federal and provincial laws. While marriage is a legal contract and the solemnization of marriage is a provincial responsibility, permission to break this contract through divorce and "any resulting corollary relief, such as custody and maintenance orders tied to a divorce," is granted under federal laws (Bissett-Johnson & Day, 1986, p. 5). Actions regarding the division of matrimonial property, however, fall under provincial laws "which differ markedly in substance from province to province" (Bissett-Johnson & Day, 1986, p. 5).

Canadians need to have some understanding of the policies related to divorce, for by the mid 1980s one in three marriages was expected to end in divorce (Adams & Nageer, 1989, p. 26). Given this, everyone can expect to have some experience with this life event, either as a participant or through our roles as parents, siblings, co-workers, and friends.

This paper will provide a brief overview of the historical context of divorce in Canada and subsequent changes in the Divorce Act and their implications for Canadians.

Historical Context

"In Canada, laws pertaining to divorce are largely inherited from English law" (McKie, Prentice, & Reed, 1983, p. 9). "Until 1857 divorce required an act of Parliament, a process that was both time-consuming and cumbersome" (McKie, Prentice, & Reed, 1983, p.7), and "was not available to those of limited means" (Bissett-Johnson & Day, 1986, p. 2). This process of obtaining a Private Act of Parliament was "started by the Earl of Macclesfield in 1697 [and] followed a varied procedure until 1778 when standing orders of the House of Lords were adopted" (Bissett-Johnson & Day, 1986, p. 1).

In 1857 an English statute was passed titled "The Divorce and Matrimonial Causes Act" (McKie, Prentice, & Reed, 1983, p. 9). Under this Act the husband could obtain a divorce on the grounds of adultery while the wife had to prove adultery plus one additional ground of desertion, bigamy, rape, sodomy, or bestiality. This double standard was removed in England in 1923 (Bissett-Johnson & Day, 1986, p. 3) but remained in effect in Canada until

---

Beverly Pain PhD, is an Associate Professor of Home Economics Education at the University of Saskatchewan, College of Education.

Note: This is a revision of a paper presented at a symposium at the 1990 National Council on Family Relations Annual Meeting, Seattle, Washington, November 1990. It is third in a series of papers on family issues.

1925, when the Canadian Parliament removed it making adultery the universal ground for divorce in Canada (McKie, Prentice, & Reed, 1983, p. 9).

In Canada, prior to 1968, laws regulating divorce varied from province to province (McKie, Prentice, & Reed, 1983). In some parts of Canada divorces had been granted before the passing of the English Act of 1857. For example, in the English settlement of Halifax the Governor in Council granted a divorce in 1750, and in 1758 Nova Scotia enacted legislation governing divorce (Bissett-John & Day, 1986). Ontario was without legislation until 1930 when the English laws were adopted and Quebec and Newfoundland never enacted provincial legislation (Bissett-Johnson & Day, 1986). "For persons in these provinces, or for those whose domicile was in question, a private Act of divorce of the Federal Parliament was the only alternative" (Bissett-Johnson & Day, 1986, p. 4) prior to 1963 when under the Dissolution and Annulment of Marriages Act, power was delegated to the Senate to dissolve and annual marriages by resolution (Bissett-Johnson & Day, 1986, p. 5).

In 1968, on July 2, The Divorce Act (An Act Respecting Divorce, 1968) became official (McKie, Prentice, & Reed, 1983). This Act "introduced for the time a uniform Canada-wide set of rules governing divorce law" (Bissett-Johnson & Day, 1986, p. 5). To obtain a divorce:

> a Petition for divorce (a legal document outlining the grounds for divorce and other important information) must be filed at the court office by the spouse who is seeking the divorce. He/she is called the petitioner. The spouse who is being sued for divorce is called the respondent. (If the ground for divorce is adultery, the person with whom the respondent allegedly committed adultery is known as the corres-pondent. (Zuck, 1986, p. 33-34)

The 1968 Act "introduced in Canada the concept of no-fault grounds for divorce while maintaining the fault category" (Pain, 1988, p. 230). Within the fault category there were eight grounds for divorce including adultery, in which it was not necessary to prove the direct fact but could be inferred from circumstances (McKie, Prentice, & Reed, 1983), and within the no-fault category there were seven grounds for divorce "described by the Act as constituting forms of marriage breakdown, though most of them also involved an element of fault" (Bissett-Johnson & Day, 1986, p. 5). For a brief overview of the grounds see Pain, 1988, pp. 230-231, or for a more detailed examination see Mackie, Prentice, and Reed, 1983 pp. 126-132.

While the Divorce Act, 1968 was considered a major step forward, there were a number of criticisms leveled at the Act. In 1976 the Canadian Law Reform Commission prepared a report recommending that there be only one basis for the dissolution of marriage, that of the failure of the personal relationship of the husband and wife to be referred to as marriage breakdown. The Government of Canada subsequently "introduced into Parliament Bill C-10, to amend the Divorce Act, one of the major features of which, if enacted, would have supplanted the then existing 15 grounds of divorce with a single ground, namely separation for one year" (Bissett-Johnson & Day, 1986, p. 14). However, "Parliament was dissolved and a federal election called in July, 1984, with the result that Bill C-10 died on the Parliamentary Order Paper" (Bissett-Johnson & Day, 1986, p. 14).

The Divorce Act, 1985

The new act regulating divorce in Canada is titled "An Act respecting Divorce and Corollary Relief". It came into effect on June 1, 1986. However, given that it was introduced into Parliament in 1985 as Bill C-47, the Act is cited as the Divorce Act, 1985. This section describes some of the changes which have been made.

In this act the grounds for obtaining a divorce were "reduced from fifteen in the 1968 Act to one ground which may be established by proof of any one of the three allegations that are encountered most frequently in practice" (Bissett-Johnson & Day, 1986, p. 25). The one ground is that of marriage breakdown and is cited in the Divorce Act, 1985, S.2 as follows:

> (2) Breakdown of a marriage is established only if
>
> (a) the spouses have lived separate and apart for at least one year immediately preceding the determination of the divorce proceeding and were living separate and apart at the commencement of the proceeding; or
>
> (b) the spouse against whom the divorce proceeding is brought has, since celebration of the marriage,
>
> > (i) committed adultery, or
> > (ii) treated the other spouse with physical or mental cruelty of such a kind as to render intolerable the continued cohabitation of the spouses.

It should be noted that while the new Act cites breakdown of the marriage as the only ground, the means of establishing the breakdown were in fact four of the grounds which could be cited under the 1968 Act with the change in separation period reduced from three years (or five if you were the petitioner and had deserted) to one year. This change in length of time of separation appears to have been established as a compromise to balance the forces which wanted more liberal laws arguing that when one files for divorce the marriage has already broken down, and those which felt they were already much too liberal.

The 1985 Act has maintained the opportunity for spouses to attempt a reconciliation with this reconciliation not affecting their petition providing they have "resumed cohabitation during a period of, or periods totalling, not more than ninety days with reconciliation as its primary purpose" (Divorce Act, 1985, S.9 (a) (ii)). The 1985 Act has removed the uncertainty as to whether or not only one attempt or multiple attempts could be made within the 90 days allotted for the purposes of reconciliation. "In short, the present position is that the parties may resume cohabitation on any number of occasions providing that they do not resume cohabitation for an aggregate period exceeding 90 days" (Payne, 1986, p. 31). It appears that if the attempts fail, the date of first separation, not the date immediately following the end of the last reconciliation attempt, will be used to establish the date beginning the one-year period of separation (Payne, 1986, p. 31). In addition Payne (1986) contends that within the meaning of the 1985 Act:

> isolated or casual acts of post-separation sexual intercourse between the spouses do not preclude a finding that they have continued to live separate and apart . . . nor justify a finding that they have resumed cohabitation . . . In the absence of a mutual intention to become reconciled,

> the continuance or resumption of sexual intercourse between separated spouses is not to be equated with matrimonial cohabitation. (p. 31)

The 1985 Act has added the provision that would allow spouses to submit a joint petition. While as Bissett-Johnson and Day (1986) point out "joint applications can only be recommended as a matter of practice where all contentious matters such as support, custody, and property division have been resolved" (p. 25), it does remove the necessity of having to have one spouse assume the role of respondent when both spouses are seeking the divorce and wish to do so as amicably as possible.

"The existing powers requiring lawyers to draw to the attention of their clients the possibility of reconciliation and the availability of local counselling and guidance services have been retained, notwithstanding the criticism that the provisions were 'too little and too late' " (Bissett-Johnson & Day, 1986, p. 29). This must be done "unless the circumstances of the case are of such a nature that it would clearly not be appropriate to do so" (Divorce Act, S.7 (1); Divorce Act, 1985, S.9 (1)). In addition the requirement that spouses be informed of mediation services has been added. Lawyers must include a statement certifying that they have complied with this when they formally commence a divorce proceeding.

Another major improvement in the 1985 Act is the use of non-sexist language, by the inclusion of "him or her", "he or she", thereby recognizing that the lawyer is not always male.

Prior to the Divorce Act, 1985, in the awarding of custody there was no formal mechanism for "either third party (for example, by a grandparent) or joint (for example, by spouses or a spouse and a third party) applications" (Bissett-Johnson & Day, 1986, p. 45). In the 1985 Act, Section 16(4) titled *Joint custody or access*, states: "The court may make an order under this section granting custody of, *or access to*, any or all children of the marriage to any one or more persons." The Act, Sections 16(10) and 16(9), further maximizes the contact the children will have with each new unit" by requiring consideration in custody determinations of the willingness of caretaker competitors to facilitate such contact" (Bissett-Johnson & Day, 1986, p. 40).

The 1985 Act also provides more rights for the non-custodial parent. Section 16(9) states "unless the court orders otherwise, a spouse who is granted access to a child of the marriage has the right to make inquiries, and to be given information, as to the health, education and welfare of the child." This section has made it much easier for school systems, for example, in that they no longer have to worry about providing information to the non-custodial parent. The 1985 Act did not however, solve the problems that schools have in regard to parental invitations to school functions, as the question of access to the child is quite another matter.

The question of continued access of the non-custodial parent to the child(ren) is dealt with in Section 16(7) under which:

> a court may, under the new Act, impose on the custodian the obligation of giving an access person notice of 30 days, or such other period as the court determines, of (a) the fact the child's residence will change, (b) the time of the change, and (c) the particulars of the child's new residence. (Bissett-Johnson & Day, 1986, p. 55)

The 1985 Act has made a major change in regard to spousal maintenance. Section 15 (7)(d) states that support provided for a spouse should "in so far as practicable, promote the economic self-sufficiency of each spouse within a reasonable period of time." This section is particularly hard on women:

> While the expectation of those entering marriage may have been "till death us do part," the reality has been that many unions have been dissolved through divorce. Given that the economic hardship imposed by this dissolution has been felt most particularly by women, women can now expect to not only receive the rather limited spousal maintenance but receive it only within a specified time period, that being whatever a judge would rule as constituting "a reasonable period of time." Many women now divorcing can therefore expect to not only experience a drop in their standard of income immediately following divorce but a further drop at the end of the period designated "reasonable" (assuming there was a spousal award and the subsequent collection of maintenance). There are no guidelines as to what constitutes a "reasonable" period of time; what is meant by "practicable"; what constitutes "economic self-sufficiency"; nor even whether economic self-sufficiency has to be attained or simply promoted. (Pain, in press)

The change in the concept of spousal maintenance was promoted by the Law Reform Commission (1975), while recognizing:

> this is a departure from the traditional concept of maintenance on divorce, which was founded on the theory that paid employment was basically an activity reserved for men. The economic needs of women were expected to be taken care of by marriage, and upon marriage a woman could anticipate being furnished with the necessaries of life for as long as she lived. (p. 29)

While this may not be the expectations of many people who enter marriage today, it is still the expectation of many who do. It is, for example, a perspective which is still actively promoted by a number of fundamentalist religions. In addition, this was likely to have been the understanding of the majority of those who entered marriage prior to or during the 1950s. This was accommodated within the 1968 Act, but not the 1985 Act. Many women are now facing a situation in which the conditions of a contract which they entered into prior to June 1, 1986, have been changed, changed not only without their consent, but without notification and are now disadvantaged by these changes when faced with divorce.

The 1985 Act in the awarding of corollary relief specifically excludes spousal misconduct as a condition. "The former Act expressly permitted consideration of 'conduct' without elaboration of its meaning on permanent, but not interim spousal and/or child maintenance applications" (Bissett-Johnson & Day, 1986, p. 80).

The Divorce Act, 1985 Section 15 (8) (a) (b) titled *Objectives of order for support of child* reads:

> (8) An order made under this section that provides for the support of a child of the marriage should

> (a) recognize that the spouses have a joint financial obligation to maintain the child; and
>
> (b) apportion that obligation between the spouses according to their relative abilities to contribute to the performance of the obligation.
>
> Under the provisions of the previous Act (Divorce Act), either spouse could be ordered to pay child maintenance, the sum of which to be that which "the court thinks reasonable" (S. 11(1) (a) (b)). The new Act (Divorce Act, 1985) determines that the financial obligation is *joint* and *proportionate.* The Divorce Act, 1985 does not, however, delineate the procedure by which this will be determined, or what should be considered to be "proportioned." (Pain, in press)

A change in the Act is needed to include guidelines to make this determination. This is incorporated in divorce legislation in other countries. In the United States, for example, there are a number of specific guidelines for determining child maintenance, such as the "Wisconsin percent of income standard." According to Fedyk, (1987) this:

> is based on the premise that when you become a parent, you take on an obligation to share your income with your child. The shares are calculated to approximate the share of income that a child would receive in an intact family. Non-custodial parents in Wisconsin pay 17% of their gross income to child maintenance for one child. The corresponding figures are 25%, 29%, 31%, and 34% for two, three, four, and five or more children. (p. 9)

A review of this standard and other guidelines is presented in Pask and McCall (1989, pp. 91-121; 135-156).

Related Policy

The following excerpt on taxation policy is taken from Pain (in press):

> In Canada, while a number of specific conditions must be adhered to, the condition that exists in respect to the existing Income Tax Act is that the spouse making spousal and/or [child] maintenance payments is able to deduct these payments from their taxable income and the spouse receiving such payments must report these payments as taxable income (Bissett-Johnson & Day, 1986). This is not the case in the United States, where the equivalent taxation policy applies to support payments made to spouses but not to support payments for children (Bissett-Johnson & Day, 1986, p. 103). The spouse seeking maintenance of self and/or children should be cognizant of this condition when negotiating such awards. Given that mostly men pay, this generally can be conceived as a means by which economic hardship can be lessened for men but increased for women.
>
> > For a taxpayer who has a high tax bracket, the fact that his periodical maintenance payments are tax deductible means that much of the cost of maintenance has been transferred to the Government of Canada in foregone taxation. As much as 40% of maintenance payments can easily be met from the reduced taxes the husband will have to pay. (Bissett-Johnson & Day, 1986, p. 103)

Pask and McCall (1989) provide examples of the cost-benefit analyses of support payments. In one example the payor husband paid monthly installments of $600. The monthly after-tax cost of maintenance for the payor husband was $360.78 and the after-tax benefit to the payee wife was $432.42 (p. 127).

In regards to the Canada Pension Plan, it now allows for the division of unadjusted pensionable earnings upon separation/divorce. A review of the division of benefits under the Canada Pension Plan is provided in Pain (in press), or for a complete overview see the document prepared by Health and Welfare, Canada (1986) titled *The Canadian pension plan: Division of unadjusted pensionable earnings.*

Summary

Canadian laws governing divorce are based in English law. It was not until 1968 that the rules regulating divorce became the same for all Canadians. Today, the Divorce Act, 1985 governs divorce in Canada. It came into effect on June 1, 1986 and introduced a number of changes. If separation is used to establish marriage breakdown, the period of separation is now only one year. You can now petition jointly with your spouse for your divorce and you can formally submit a petition for joint custody. It also includes the provision for a third party (ie. grandparent) to petition for custody and more rights have been granted to non-custodial parents. The requirement that lawyers must inform their clients of mediation services has also been added.

Where these changes are generally seen as favorable, other changes have introduced other concerns. For example, changes in the awarding of spousal maintenance have been particularly hard on women. These need to be modified to at least protect women who married prior to the new Act, and entered marriage with a different understanding of how they would be cared for, should their marriage end in divorce. The new Act did not include guidelines for the determination of child maintenance and these need to be incorporated. Income taxation policy also needs to be changed as it relates to child maintenance.

Until such changes in policies are enacted a process of educating Canadians about the current policies and the impact of these policies must be undertaken. This will not only enable Canadians to be better prepared on a personal level but will lead to a better understanding for the need to change and hopefully the willingness to support and actively work for needed policy changes. ☐

References

Adams, O. & Nagur, D. (1989). Marrying and divorcing: A status report. *Canadian social trends,* No. 13, 24-27.

*An Act Respecting Divorce. (1968). S.C. (Statutes of Canada) 1967-1968, c. 24 (Chapter 24); R.S.C. (Revised Statutes of Canada), 1970, c.D-8. (referred to as the Divorce Act).

*An Act Respecting Divorce and Corollary Relief. (1985). S.C. 1986, c. 4. (referred to as the Divorce Act, 1985)

Bissett-Johnson, A., & Day, D.C. (1986). *The new divorce law.* Toronto, ON: Carsell.

Fedyk, J. (1987, December). *Factors affecting the cost of raising children.* Paper presented at the meeting on the Canadian Bar Association — Family Law Section, Saskatoon Branch, Saskatoon, SK.

Health and Welfare Canada. (1986). *The Canadian pension plan: Division of unadjusted pensionable earnings.* Ottawa, ON: Author.

Law Reform Commission of Canada. (1975). *Maintenance on divorce* (Working Paper No. 12). Ottawa, ON: Information Canada.

McKie, D.C., Prentice, B., & Reed, P. (1983). *Divorce: Law and the family in Canada* (Statistics Canada Catalogue 89-502E). Ottawa, ON: Ministry of Supply and Services Canada.

Pain, B.J. (1988). Family politics: Divorce and custody awards in Saskatoon, Saskatchewan. *Journal of Divorce, 11* (3/4), 229-238.

Pain, B.J. (in press). Resource reallocation following separation/divorce. In S. Parvez Wakil (Ed.), *Family, state and society: At crossroads.*

Pask, E.D., & McCall, M.L. (1989). *How much and why? Economic implications of marriage breakdown: Spousal and child support.* Calgary, AB: Canadian Research Institute for Law and the Family.

Payne, J.D. (1986). *Payne's commentaries on the Divorce Act, 1985.* Don Mills, ON: De Boo.

Zuck, C.M. (1986). *Family law.* Saskatoon: Public Legal Education Association of Saskatchewan.

*The Statues of Canada are reference books which are available in most public libraries.

Call for Papers 1992

The *Canadian Home Economics Journal* invites articles from home economists and others who share their interest in promoting the well-being of indivduals and families. Papers related to social issues affecting the home economics profession and professional practice, or providing information about professional subject fields are of particular interest.

Submission deadlines:

Spring	December 15, 1991
Summer	March 1, 1992
Fall	June 15, 1992
Winter	September 15, 1992

Demande d'articles 1992

La *Revue canadienne d'Economie familiale* sollicite des articles soit par des spécialistes en Economie familiale soit par toute personne intéressée à promouvoir le bien-être des personnes et des familles. Les articles peuvent traiter d'aspects sociaux ou d'information dans les divers champs du domaine de l'Économie familiale.

Dates limites d'envoi des manuscrits:

Printemps	15 décembre 1991
Été	1er mars 1992
Automne	15 juin 1992
Hiver	15 septembre 1992

Research Section

Rural Alberta Home-Based Businesses: A Profile of Workshop Participants

M. Linda Capjack and Nelma I. Fetterman

Abstract

As increasing numbers of people seek to turn their talents, hobbies, and ideas into profitable ventures, educational programs are being established to disseminate helpful information to active and potential home-based entrepreneurs. The impact of one of these home-based business programs, a workshop on income generation and agricultural diversification provided by home economics extension staff of Alberta Agriculture, was assessed. From data collected during the assessment, a profile of rural Alberta home-based entrepreneurs who attended the workshops was developed and the financial contributions to family income were estimated. The data collection was done through the use of a seven-page mail-out questionnaire to 262 participants of 14 home-based business workshops. A return rate of 62% was obtained. Descriptive analyses were performed using the *Statistical Package for the Social Sciences* (SPSS^x). Over half (53%) of the 77 products produced by 60 entrepreneurs utilized sewing- or craft-related expertise to supplement the family income. The reported contribution of 73% of the home-based businesses was less than 5% of the family income. Recommendations for further research as well as implications for home economics educators are discussed.

Résumé

De plus en plus de gens veulent utiliser leurs talents, leurs passe-temps et leurs idées pour créer de petites entreprises rémunératrices à domicile. Des programmes de formation ont donc été mis en place afin de renseigner ceux qui ont déjà fondé ce type d'entreprise ou qui y songent. On a évalué les résultats d'un de ces programmes, un atelier sur les activités rémunératrices et la diversification agricole donné par le personnel d'économie familiale rurale d'Alberta Agriculture. Avec les données obtenues, on a brossé un tableau des petits entrepreneurs travaillant à domicile de l'Alberta rural venus à l'atelier et on a calculé approximativement leur part dans le revenu familial. 262 personnes qui avaient participé à 14 ateliers ont reçu un questionnaire de sept pages, auquel 62 % ont répondu. Les analyses descriptives ont été faites à l'aide de l'*Ensemble des programmes statistiques relatifs aux sciences sociales* (SPSS). Plus de la moitié (53 %) des 77 articles produits par 60 entrepreneurs pour compléter le revenu familial avaient trait à la couture ou à l'artisanat. L'apport déclaré de 73 % de ces entreprises représente moins de 5 % du revenu familial. On recommande ici d'autres travaux de recherche et on indique aux enseignants en économie familiale les conséquences à tirer de ces résultats.

The evolution of home work and the growth of home-working families carry important consequences for both work and family life. In Canada, it is estimated that as many as 2.5 million people are running businesses from their homes (Home office, 1990). Futurists predict that 4 out of 10 workers in North America will be working out of their homes by the year 2000. Although the number of home-based entrepreneurs is increasing, little information about them is available (Priesnitz, 1988) and even less information is available about rural home-based entrepreneurs.

Problems are encountered when trying to balance traditional work environments and family life responsibilities. These problems become particularly acute when the responsibility of managing a farm is added. An increasing phenomenon in rural Alberta is the home-based business as a means of supplementing income and providing flexibility for meeting family and farm responsibilities. Many rural entrepreneurs are using their talents, often traditional in nature, for profit while remaining home with their families. Holyoak (1988) noted that the field of home economics provides opportunities to learn skills that can be used for the production of marketable goods and services. Home economics programs provide the content related to a wide range of services and products readily adapted for income generation and profit-making potential.

In addition to teaching skills that can be used for the production of marketable goods and services, home economics extension staff are also helping rural families to make realistic assessments of the commitment necessary to run a

---

M. Linda Capjack (BSc, MSc, Clothing and Textiles, University of Alberta) is a professional home economist working as a full-time sessional instructor in the Clothing and Textiles Department at the University of Alberta. This manuscript is based on research conducted in 1989-1990, at the University of Alberta, as part of her MSc requirements.

Nelma I. Fetterman (BEd, University of Alberta; MA, Michigan State University; PhD, Ohio State University) is an associate professor in the Clothing and Textiles Department at the University of Manitoba. She recently has been involved in publishing an index of journal literature covering home economics research.

home-based business. Clients are encouraged to examine the feasibility of their potential business, the skills required, and profit potential. The purpose of this paper is to provide a profile of rural Alberta home-based business owners who attended the home-based business workshops and to offer suggestions for adapting educational programs to meet their needs.

The framework for assessment used in the primary study for this research was based on evaluation research. Touliatos and Compton (1988) suggest that evaluation research measures the extent to which programs have followed policy and how well existing programs have achieved goals. Summative evaluation is carried out at the conclusion of a program to assess the extent to which the objectives of the programs were accomplished. The products of the system are evaluated. That is, the improvement of the business practices were looked at as well as the impact on clients' decisions to actually go into business. The information obtained in this study also may be of value to a more general audience, however, interested in characteristics and activities of rural entrepreneurs. In addition to information on the benefits of the home-based business program, data such as demographics, reasons for being in business, type of business involvement, relation to vertical integration of agriculture, and where further assistance is required were collected.

Review of Literature

The economies of many rural communities are suffering from decline in agricultural income (Pigg, 1986). Bradley (1986) stated that the survival of rural areas, both farm and small communities, is dependent upon the expansion of income and employment opportunities in such areas. The economic problems of farm families are leading with increasing frequency to off-farm employment as a survival mechanism for the family farm (Rosenfeld, 1985; Shaw, 1979; Wozniak, Draughn, & Perch, 1988). It is estimated that almost 50% of Alberta's farmers need to supplement income levels from off-farm sources (Options and Opportunities, 1987).

A 1986 study done in Alberta (Famex, 1986) of income and expenditures of Alberta farm families indicated that 44.5% of the women and 39.9% of the men reported off-farm employment income. As Wozniak and Scholl (1988) reported, such off-farm work affects the day-to-day operation of the farm. Farmers who have inflexible off-farm work hours must adjust farm work to meet the requirements of off-farm work, or they may have to choose a type of farm work that can be handled by the spouse at home.

Many members of farm families frustrated by years of sharply fluctuating income are turning to entrepreneurship, creating small businesses built around skills such as sewing and food preparation. Sales revenues are generally modest. The people starting these business — mostly women — encounter the same problems as entrepreneurs anywhere and finding sound business advice is a continuing problem. Beach (1987) alluded to the fact that choices for jobs are often limited and unglamorous in rural areas, so women have opted for alternatives such as home-based business. A home-based business combines family life responsibilities with income enhancement (Fetterman, Lenburg, & Mielicki, 1986; Lofflin, 1988). Home-based business allows people to earn some income without losing the flexibility and rewards of being at home and being available to help on the farm.

Fortenberry (1988) and Owen and Passewitz (1986) in their studies of entrepreneurs noted that 55% of small businesses do not survive their first five years of operation. The major reason for this is lack of business skills. The entrepreneur must have the ability to develop competitive strategies and understand how all the jobs of the business interrelate. Hoover (1986) in her study of entrepreneurial farm women noted that running a business from the home is not new, but certainly is becoming more popular. Fortenberry (1988) suggested that we need more studies on the personality traits and characteristics of entrepreneurs.

Studies done on home businesses are sketchy. Very limited data are available on activities and initiatives devoted to entrepreneurship. Little is known about rural home-based business and entrepreneurs and even less is known about rural Alberta home-based entrepreneurs. Morrison (1986) studied the impact of home-based business programs offered by the Department of Extension in four states of the United States. The home-based business programs evaluated provided a high degree of learning in the areas of setting prices, keeping financial and customer records, but more help was needed in the areas of marketing, improving products, and assessing potential for sales. It is essential to evaluate the contribution of home-based businesses to the rural economy and to understand their unique characteristics in order for home economists to help rural families adapt to change.

The objectives of this paper are to provide a profile of the rural Alberta entrepreneur and to assess the financial contribution of their home-based business to the family income. The entrepreneurs profiled were participants of home-based business programs offered by Alberta Agriculture extension staff in 14 different locations between January, 1988 and April, 1989.

Method

Sample. The mailing list included all 262 names from the lists of consenting participants of 14 of the home-based business workshops offered between January, 1988 and April, 1989. Workshops were advertised by district home economists either through local newspapers or newsletters. Approximately 90% of the participants at the workshops agreed to take part in the study by adding their name to a circulated list. The sample did not include the 30 people from a separate workshop who participated in a pilot study of the instrument. The sample used was from a very select group of rural Albertans and may not be applicable to the total population, but it was a good indication of the type of client utilizing extension services for home-based business expertise.

Instrument. The seven-page mail questionnaire (Capjack, 1990) was an adaptation of the instrument developed for Morrison's (1986) *Study of Impacts of the National Cooperative Extension's Educational Efforts in Financial Planning and Management — Home-Based Business Program.* The questionnaire was pilot tested and the resulting analysis was used to improve reliability and validity. Modifications were made to improve clarity. All participants were asked to answer the demographic questions, indicate their current status related to home-based entrepreneurship, and give comments about current and future programming. Only those participants who were in business either at the time of the workshop or at the time of the assessment were asked to complete the entire questionnaire. Entrepreneurship data were obtained from the closed- and open-ended items regarding business practices in both management and financial areas of a home-based business. Other items focussed on participants' indications of perceived change in business-related knowledge and skills as a result of the program and economic end results.

Data collection and processing. The questionnaire, cover letter, and postage-paid return envelope were mailed to participants of the home-based business workshops. Confidentiality was assured. Two follow-up post cards and numerous telephone calls yielded 162 returned questionnaires, representing a 62% return rate, of which 156 were usable.

The responses to the questionnaire were coded to computer-readable form. Data were analyzed using the *Statistical Package for the Social Sciences (SPSS*^{x} Users Guide, 1983). Descriptive statistics, cross tabulations, correlations, and t-tests were used to summarize, organize, and condense data.

Results and Discussion

Home-based business involvement of respondents. Of the 156 respondents who had attended one of the home-based business workshops, 51 were in business at the time of the program. Since their attendance at the program, 3 people had gone out of business and 12 had begun a new business, making a total of 60 (38%) home-based entrepreneurs at the time of the study (Figure 1). Respondents who made the decision to go out of business felt that they could not make enough money and their businesses were too time consuming.

Of the 105 respondents who were not in business at the time of the program, 42 (40%) decided not to start a business. Many of these respondents noted that the home-based business program helped them realize all that was involved in starting a business and made them hesitant to make that commitment. Having to think through the steps of a business plan helped clients make a realistic assessment of profit potential and what was involved in owning a home-based business with the ultimate aim of avoiding costly mistakes and a sense of failure. Morrison (1986) noted that this was also an important function of the United States programs.

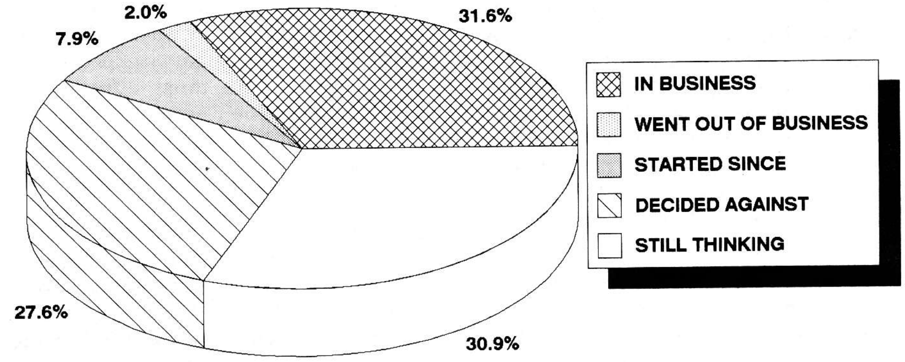


Figure 1. Home-based business involvement of respondents (n = 156)

in owning a home-based business with the ultimate aim of avoiding costly mistakes and a sense of failure. Morrison (1986) noted that this was also an important function of the United States programs.

Characteristics of home-based businesses. Although there were 60 respondents with a home-based business, 77 products or services were provided by the entrepreneurs. Home-based businesses in a variety of sectors were evident (Figure 2). Over half (53%) of the 77 products were fabric, sewing, or craft related. These products ranged from custom sewn children's or adults' clothing or hunting garments to quilted, knitted, and crocheted articles.

Crafts including jewelry, lapidary, hand-painted silk scarves, Christmas decorations, and gift baskets were being hand produced by many home-based entrepreneurs. Another 13% were in food-related businesses, either catering or baking for the farmers' market. The businesses involved in pottery or art comprised 8% of the sample while those engaged in agricultural diversification or woodworking each comprised 6% of the sample. Agricultural diversification included selling bedding plants, U-pick fruit and vegetable operations, selling garden produce, working guest ranches, and country vacations along with vertical integration such as selling finished wool products from sheep raised on the farm. The service industry represented another 12% of home-based

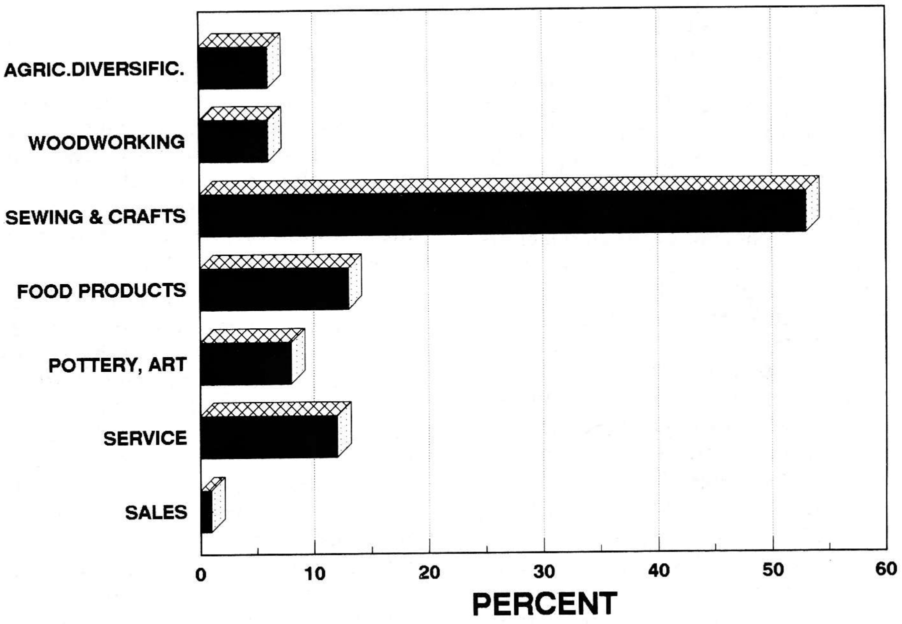


Figure 2. Product or service (n = 77) offered by the 60 entrepreneurs.

business operations ranging from music lessons, hairdressing, electrolysis, massage, back-hoe operations, and oil well maintenance services. Retail sales done from the home comprise the remaining 1% of business types.

Business structure and capitalization. Most (86%) of the 60 businesses surveyed were individually owned and organized as sole proprietorships. Nearly half (48%) of the businesses indicated that other family members helped at busy times. On average the businesses surveyed were just over four years old. The largest segment of businesses (43%), however, consisted of those established within the year prior to conducting the survey. Sixteen percent had been in business for more than 10 years. The large percentage of newer businesses indicates that beginning entrepreneurs were seeking assistance in establishing their new businesses. Another implication may be that home-based businesses are on the rise, as is indicated in the popular press.

Start-up costs for the home-based businesses surveyed averaged $8,106 with a range from no cost to $99,000. The modal amount spent on start-up costs was $2,000. Craft-oriented businesses tended to have minimal start-up costs. Sewing-related businesses had start-up costs of $1,200 to $4,000 — the cost of a sewing machine and serger. More specialized sewing operations had start-up costs of $10,000. Eighteen percent of the business owners did not know what their start-up costs were as their businesses had begun gradually.

Although 80% of the businesses surveyed had some start-up costs, of which 44% were over $2,000, only 15% had obtained capital from financial institutions (Figure 3) such as banks or credit unions. In a study of female home-based business owners in Canada, Priesnitz (1988) suggested that women had trouble raising capital for a business and only a few had sought a loan from a financial institution. Priesnitz found that the major source of capital was personal savings. Consistent with the findings of Priesnitz's Canadian study, approximately 65% in this study said they used personal savings to launch their business.

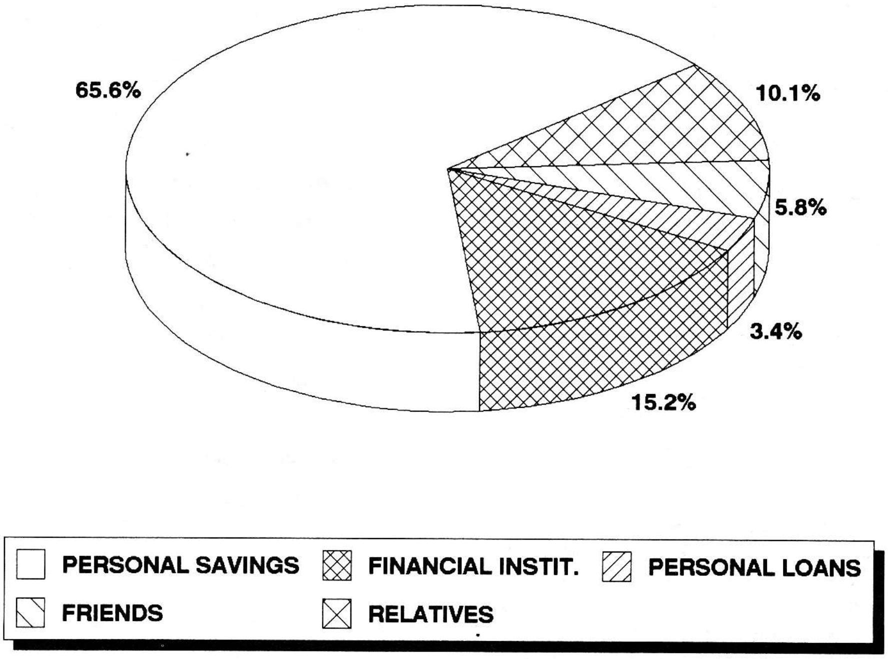


Figure 3. Sources of financing used by home-based businesses (n = 59).

Demographic profile of home-based business owners. Of the 60 home-based business owners surveyed, 87% were married and female with 57% over the age of 40 (Table 1). Morrison (1986) noted that 96% of the clientele attending their workshops were female with an average age of 46. In this study, 35% were between the ages of 30 and 40 and 8% were under the age of 30. The owners had an average of 1.5 children living at home. Those not in business had an average of 1.6 children living at home. Almost 60% had children under the age of 19 living at home, with 23% of the children under the age of six. Approximately 50% of the home-based business owners had some post-secondary education with 38.3% attending college or university. The most distinguishing feature between those not in business and those in business was the availability of day care (p = .010). Daycare was available for 32% of those in business compared to 73% for those without a home-based business.

Other studies of demographics of home-based entrepreneurs have revealed similarities and differences in demographic characteristics. Bastow-Shoop, Leistritz, and Ekstrom (1988) also found the rural home-based entrepreneur in North Dakota to be typically a well-educated, married female with children living at home. They did, however, tend to be younger — between the ages of 30 and 39. Results of other studies such as Fortenberry (1988), Huntley (1985), and Lavoie (1988) were more consistent with the findings of this study in terms of demographic characteristics.

Table 1. Profile of respondents (n = 156)

Variable	In Business n = 60	Not in Business n = 96
Gender	Percent	Percent
Male	13.0	1.1
Female	87.0	98.9
Age		
21-30	8.3	9.0
31-40	35.0	35.9
41-50	26.7	30.4
Over 50	30.0	24.7
Highest Education		
Grade School	0.0	2.2
High School	50.0	41.6
Technical School	11.7	11.2
College/ University	38.3	44.9
Marital Status		
Single	6.7	2.2
Married	88.3	87.6
Divorced	5.0	3.4
Other	0.0	6.7
Residence		
Farm or Ranch	48.3	44.9
Acreage	23.3	20.2
Town or City	25.0	33.7
Missing	3.3	1.1
Daycare Available		
yes	32.0	73.0

Approximately one tenth of the home-based business owners surveyed had taken other business courses and/or sought business counselling. Indications were, however, that they were self-learners as 38% had independently referred to books on business. Other sources of help to the entrepreneurs surveyed included similar businesses, personal research, previous work, skill courses, and videos on running a business.

Fifty percent of the home-based businesses identified in this study were operated from a farm home, 24% from an acreage, and 26% from a town or city in Alberta. As well as having a home-based business, 10% of the home-based business owners worked full-time outside the home, 27% had part-time jobs, and the remaining 63% said they took odd jobs when they were available. In addition, the home-based business owners surveyed performed a diverse array of farm-related duties concurrently with all their other obligations. Indications were that home-based business owners, especially those living on a farm, led very busy lives trying to piece together an income. Consistent with the findings of Beach (1987), rural families often patched together an array of diverse work options.

Reasons for working at home. In a multiple response question, many of the home-based business owners surveyed gave several reasons for working at home (Figure 4). The most frequent reply was that their hobby had turned profitable (72%), followed by wanting flexible hours (63%), the challenge of owning their own business (55%), and the desire or need to earn extra income (50%), to take care of children (35%), and to be available to help on the farm (32%).

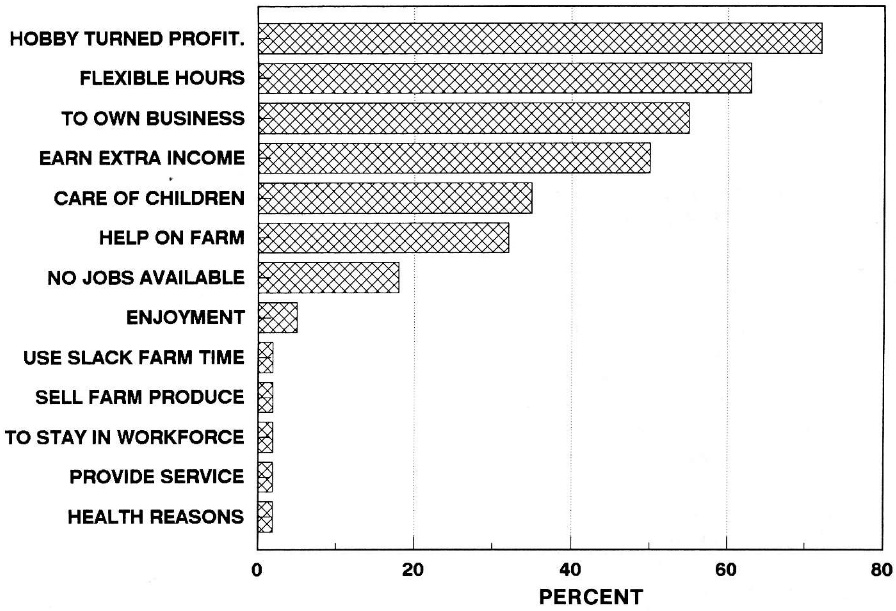


Figure 4. Reasons for a home-based business (n = 60).

Disadvantages of working at home. In answer to an open-ended question, many home-based business owners felt there were no disadvantages to working at home, while others provided extensive lists of disadvantages. The most common problem was the distractions of the home situation — children, housework, friends dropping in. Other disadvantages were a lack of work space, a loss of living space, and a constant untidiness. Some felt that they missed the interaction of co-workers and the structure of regular office hours. Business was conducted at all hours at home (which could also be a competitive advantage) with phone calls or work late at night when the house was quiet.

Other problems were identified by home-based entrepreneurs. For those home-based business owners living on farms or acreages, there were few drop-in customers, lack of proximity to a market, increased delivery costs, and greater distance to travel for supplies. A major problem resulting in frustration and discrimination for many rural home-based business owners was that some wholesalers refused to deal with someone with a rural or home address.

Income levels and work patterns. Estimated earnings per hour ranged from $1.00 to $20.00 with a mean of $7.52 and a modal hourly rate of $4.00. One third of the respondents found it difficult or impossible to tell what they were making per hour. Several were unaware that, even if their business was new and they were not making a profit from the business at present, they still should be assigning themselves an hourly wage in order to price their product accurately. Several home-based business owners expressed a frustration with earning low wages and felt $4 per hour was not an adequate return for their skill level. It was of interest to note that 18% of the business owners surveyed felt their earnings increased since taking part in the home-based business program.

Although the actual amount earned from the home-based business was not directly asked in the questionnaire, it was estimated by multiplying the hourly wage by the hours worked per year as well as by calculating earnings from the percentage of the family income contributed by their business. Two different estimates were obtained, with means of $8,938 and $4,304.72 respectively. The Pearson correlation coefficient between estimates obtained by the two methods was .36. An implication of the low correlation between the two estimates is that the home-based business owners had some difficulty in estimating earnings from their business. Morrison (1986) reported average incomes of $5,000 from the United States study with a similar discrepancy in the amount earned and the reported percentage of the family income contributed.

A t-test analysis indicated that the percent of family income earned by men was significantly higher than for women ($p < .005$). Although there was a small percentage of men in this analysis, it is an indication that men in this study made more from their home-based business than women. They did, however, work an average of 34.3 hours per week compared to 25.8 hours for women. A t-test procedure indicated that those entrepreneurs involved in sewing or crafts businesses earned significantly less of the family income ($p = .001$) than their counterparts in other home-based businesses. In a separate t-test, service-related businesses earned significantly more

($p < .005$) of the family income than other home-based businesses.

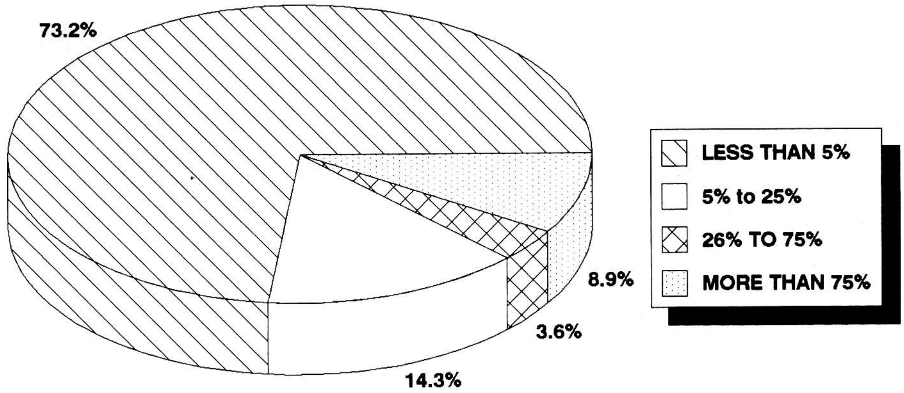


Figure 5. Home-based business contribution to total family income (n = 56).

The majority of home-based businesses surveyed (55%) were part-time operations with the owners working under 20 hours per week and 53% working under 40 weeks per year. Several business owners indicated that their businesses were seasonal and some weeks they did not work, but during the busy season they worked 12-15 hours a day and 60-70 hours per week.

The proportion of family income earned was positively related ($r = .54$, $p < .01$) to the number of hours worked per week. A chi-square analysis showed that as hours of work increased, there was a significant increase in the percent of family income earned ($p < .05$). The contribution of 73% of the home-based businesses to the family income (Figure 5) was less than 5%. Five percent of the home-based businesses were, however, contributing over 50% of a total family income of over $60,000. For those business owners contributing more than 10% of the family income, 40% worked at their home-based business 20-35 hours per week while 60% worked 40-70 hours per week. A chi-square analysis indicated a significant association ($p < .05$) between the percent of family income earned and the location of the business. This is an indication that if the business was located on a farm or acreage it was more likely to be earning a larger percentage of the family income than if it was located in a town or city. One explanation for this is that there could be more job opportunities in a town or city for earning other income.

Although the businesses earning less than 10% of the family income served a valuable purpose by supplementing the family income, improvement of their earning power was desirable. It was evident that these home-based business owners needed help in developing a distinctive competency for their business and the business knowledge to manage and market their products in order to improve profitability.

In a 1986 Famex study of Alberta farm families, the average off-farm income for the year for females was $3,368 and $5,764 for males. By comparing the two estimates of home-based business income with the off-farm income reported, it appears that home-based businesses could replace the off-farm employment, assuming that the income levels reported were net income as requested. If the estimates are accurate, the home-based businesses studied are making a contribution to family income comparable with off-farm employment.

Implications and Recommendations

The results of this study indicate that rural Alberta home-based entrepreneurs attending a home-based business workshop are well-educated, married, and female over the age of 40 with children living at home. These findings are consistent with other recent studies (Bastow-Shoop et al., 1988; Fortenberry, 1988; Huntley, 1985; Lavoie, 1988). It is of interest to note that over 65% of the products being produced by these entrepreneurs involved sewing or textile arts and food preparation.

With a large percentage of the home-based business owners earning income from home economics-related expertise, home economists can play a significant role in educating about entrepreneurship as well as work and family-related skills. Combining a business with raising a family can be a challenging experience. It can also be a training ground for children in business and family-related skills. Home-based business is an interdisciplinary issue meshing all facets of home economics. When teaching the skills often used to generate home-based business income, incorporation of entrepreneurial training, profit analysis, and market potential are logical concepts to be taught concurrently. Home economics students also could be encouraged to take business courses to supplement and strengthen their home economics education — not only to be able to help entrepreneurs of the future, but to help themselves as entrepreneurs of the future.

With 43% of the businesses beginning within the year prior to the assessment, this study also indicates that new entrepreneurs are seeking help in their business ventures and home economics extension services are a first step to more formal business counseling. The income contribution from the home-based businesses is generally supplemental. With the percentage of family income contributed by sewing- and crafts-related businesses being significantly lower than from other home-based businesses, clothing and textiles teachers may need to educate their students in developing and assessing profitable products. Most entrepreneurs need help in pricing their product to ensure adequate compensation and increase profitability. This concept could be an integral part of home economics education and extension courses. The development of a profile of the entrepreneur gives a clearer understanding of the needs and characteristics of rural home-based business owners so that programs can be adapted to their needs.

Since this research was done on a select, relatively small sample of the population, a larger random sampling of the agricultural community would be of value to show what percentage of the population is indeed involved in home-based businesses and if they are making a significant contribution to the family income. It may be difficult, however, to get a true picture of home-based business activity due to the "underground" nature of this part of the economy and an unwillingness to acknowledge business activity.

Further research is recommended to identify successful marketing and business strategies of home-based businesses. In addition, other home-based business issues such as health hazards, discrimination from wholesalers or municipalities, work and family-related issues, and role orientation require investigation. To capitalize on family resources, it is imperative to examine all the issues associated with a home-based business in order to provide educational information to aid clients in developing their entrepreneurial skills and diversifying their income.

References

Bastow-Shoop, H.E., Leistritz, F.L., & Ekstrom, B.L. (1988). *Home-based businesses in North Dakota: Characteristics of present and prospective proprietors* (Agricultural Economics Miscellaneous Report No. 114). Fargo, ND: North Dakota State University, Dept. of Agricultural Economics.

Beach, B.A. (1987). Time use in rural home-working families. *Family Relations, 36*, 412-416.

Bradley, D. (1986). *Revitalizing rural America: A cooperative extension system response.* Madison, WI: University of Wisconsin, Madison, Extension Service.

Capjack, M.L. (1990). *Impact of home-based business programs on agricultural diversification and income generation.* Unpublished master's thesis, University of Alberta, Edmonton.

Famex. (1986). *Family living expenditures of 318 Alberta farm families.* (Farming for the Future Research Project No. 840336). Edmonton, AB: Alberta Agriculture, Home Economics Branch.

Fetterman, N., Lenburg, M.L., & Mielicki, S.A. (1986). Training the home entrepreneur. *Journal of Home Economics, 78*(2), 40-41.

Fortenberry, S.L. (1988). Entrepreneurship: A viable addition to home economics curriculum. *Journal of Home Economics, 80*(1), 3-6.

Holyoak, A. (1988). Exploring the home economics role in home-based business: Home economics. *Illinois Teacher, 31*, 176-177, 181.

Home office revolution. (April 16, 1990). *Financial Post.* p. 37.

Hoover, C.R. (1986). *The entreprenurial activities of farm-based women.* Unpublished master's thesis, Ohio State University, Columbus.

Huntley, R.L. (1985). Women entrepreneurs and career choice. *Dissertation Abstracts International, 46*, DA8516724 / University Microfilms No. 46-06A, 1755).

Lavoie, D. (1988). *Women entrepreneurs: Building a stronger Canadian economy* (Publication No. BP 1988-2E). Ottawa, . ON: Canadian Advisory Council on the Status of Women.

Lofflin, J. (1988, January 3). A burst of rural enterprise. *New York Times, Business Section*, pp. 1, 23.

Morrison, J. (1986). *A study of impacts of the national cooperative extension's educational efforts in financial management — Impact of home economics extension programs in home-based business (mimeographed).* University of Missouri, Lincoln.

Options and opportunities: Agricultural finance in Alberta (1987). Report presented by the Committee appointed to review the Alberta Agricultural Development Corporation. Calgary, AB: Government of Alberta.

Owen, W.G., & Passewitz, G.R. (1988). Programs for home-based business. *Journal of Extension, 24*(1), 29.

Pigg, K.E. (1986). *Rural economic rivitalization: The cooperative extension challenge in the North Central Region.* Ames, IA: North Central Region Center for Rural Development.

Priesnitz, W. (1988). *Women and home-based businesses in Canada — An investigation.* Unionville, ON: Canadian Research Institute for the Advancement of Women.

Rosenfeld, R.A. (1985). *Farm women: Work, farm, and family in the United States.* Chapel Hill, NC: The University of North Carolina Press.

Shaw, R.P. (1979). Canadian farm and nonfarm family incomes. *American Journal of Agricultural Economics, 61*, 676-682.

SPSSˣ Users Guide. (1983). New York, NY: McGraw-Hill Book Company.

Touliatos, J., & Compton, N.A. (1988). *Research methods in human ecology/home economics.* Ames, IA: Iowa State University Press.

Wozniak, P.J., Draughn, P.S., & Perch, K.L. (1988). A multi-state study of off-farm employment. *Home Economics Research Journal, 17*, 10-19.

Wozniak, P.J., & Scholl, K.K. (1988). Employment decisions of farm couples: Full-time or part-time farming? *Home Economics Research Journal, 17*, 20-35.

Research Section

Canadian Home Economics Journal

Editorial Panel
October 1990 — October 1991
Betty Crown, Editor

Clothing and Textiles/Housing

Auld, John
Ellison, M. Bateman
Feather, Betty L.
Fetterman, Nelma
Kerr, Nancy
Lanz, Barbara
Richards, Elizabeth
Turnbull, Susan
Wall, Marjorie

Consumer/Management

Ellison, M. Bateman
Fast, Janet
Marshall, Judith
Pain, Beverly J.
Smith, Betty Stafford
Vosburgh, Richard E.
Wall, Marjorie

Evaluation/Education/International

Lefebvre, Verna
MacCleave, Ann
Martin, Colette
McDowell, Marilyn
Murray, Eloise
Nelson, Barbara
Pain, Beverly
Peterat, Linda
Vaines, Eleanore
Young, W.

Family, Child and Aging

Arcus, Margaret
Brockman, Lois
Harvey, Carol Hussa
Henton, June
Johnson, Phyllis
Keating, Norah
Kieren, Dianne
Martin, Carol
Martin, Collette
Montgomery, Jason
Schneider, Rita
White, James

Foods and Nutrition

Barr, Susan
Basu, Tapan
Bright-See, Elizabeth
Chen, Shirley
Hawrysh, Zenia
Lee, Melvin
Maclean, Heather
Malcolmson, Linda
Mongeau, Estelle
Peters, Joan Allen
Selby, Anne
Seone, Nicole
Srivastava, Uma
Sullivan, Ann D.
Vaisey-Genser, Marion
Whiting, Susan J.

Scholarships for Graduate Study

Eligibility

Applicant must be:
- Canadian citizen or landed immigrant
- member of CHEA
- graduate in home economics, human ecology, or consumer studies (Additional requirements are noted in descriptions.)
- proceeding to a higher academic degree

Individuals may apply for a maximum of 2 scholarships, and are reminded to read the accompanying descriptions carefully to determine which are best matched to the applicant.

Previous CHEA scholarship winners are eligible to reapply for awards, provided they continue to be enrolled in graduate study. Unsuccessful applicants may reapply for the same or different awards in future years. Files are not kept, so a new application must be submitted each time.

Awarding of Scholarships

Applications which satisfy the award criteria are evaluated on the basis of personal qualities, past or potential contribution to the profession of home economics, and scholarship.

Applicants will be notified of the decision of the awards committee by April 30. Funds are released to winners once it has been confirmed that they are registered in their respective programs.

Application Process

Completed application must be postmarked no later than January 15.

Application forms are available through faculty offices, or from CHEA.

Canadian Home Economics Association
Association canadienne d'économie familiale

901, 151 Slater Street, Ottawa, Ontario K1P 5H3
Tel: (613) 238-8817 Fax: (613) 238-1677

doctoral study $4000	**Fiftieth Anniversary Scholarship** Commemorates the 50th anniversary of CHEA. Applicant must have been a CHEA member for at least 2 years.
graduate study $4000	**Silver Jubilee Scholarship** Commemorates the 25th anniversary of CHEA.
graduate study $4000	**Mary A. Clarke Memorial Scholarship** Established as a tribute to Mary Clarke, a valued member of CHEA, and 1952-54 president.
graduate study (foods) $1000	**Nestlé Enterprises Scholarship** Selection based on previously-described general criteria, and on intention of the applicant to pursue a career in the food industry. Presented by Nestlé Enterprises Ltd.
graduate study $1000	**Robin Hood Multifoods Scholarship** Preference is given to an individual planning a career in business, consumer service (foods), or foodservice management. Presented by Robin Hood Multifoods Inc.
Masters of Education $5000	**Ruth Binnie Scholarship** (two awards) For a graduate in home economics or home economics education who holds a professional teaching certificate, and has a high commitment to the teaching profession and home economics education. First consideration is given to full-time students; awards to part-time students will be prorated. In addition to the general criteria for awards, consideration will be given to contribution toward home economics education in junior or senior high school, and potential in the education field. Established through the generosity of the late Ruth Binnie, Halifax, to provide quality home economics education in Canada.

August 1991

Book Reviews

If you are interested in reviewing a book, please contact the Book Review Editor, stating your area of interest. A complimentary book which may be kept will be sent to you for review.

Book Review Editor
Linda West
410 Stafford Dr. North
Lethbridge, Alberta
T1H 2A9

Growing Up Caring by Frances Schoonmaker Bolin. (1990). Mission Hills, CA: Glencoe/McGraw-Hill, 467 pages; $40.00.

This is a textbook accompanied by a teacher's resource manual. The text presents a direct way of dealing with personal life skill education by stating directly that the teacher needs to deal with the issues based on morals and values. The material in the text is not new, but it has up-to-date information relevant to the present needs of our society.

The content of the text covers a wide spectrum of life skills issues. Based on a personal knowledge of the Health and Personal Life Skills and CALM* (Career and Life Management) curriculum in the Province of Alberta, the material would be applicable from grade eight through to grade eleven. It is also an American publication which may limit its effectiveness in the Alberta curriculum. If used as a single text in the CALM program, it would more than adequately provide information for a full year program.

The Teacher's Resource Binder as it is well organized with complete lesson plan ideas. There is also a set of mini lesson plans that would be useful for planning the use of specific chapters. This guide provides excellent support material by way of student handouts, lesson enhancers, and tests. There is also suggestion made for the use of this book in other subject areas.

The text is filled with useful tables, colorful illustrations, and pictures that help to give visual "hooks" to the written information on many of the pages. If used in the high school, the text would be suitable reading material.

Overall, I was impressed with the general approach of this book, but would have difficulty recommending it for more than a supplementary resource for the CALM program.

Reviewed by:
James A. Zook, BEd, MA
Health Department Head and Project Leader
Wilson Junior High School
Lethbridge Public School District #51
Lethbridge, Alberta

***Editor's Note:** CALM is a compulsory subject in Alberta's High Schools encompassing objectives and goal setting, sex education, and career planning.

Aging and Caregiving: Theory, Research, and Policy by David E. Biegel and Arthur Blum (eds). (1990). Newbury Park, CA: Sage Publications Inc., 294 pages; $35.00 or Paperback $16.95.

The intended audience for this book is a social science researcher, preferably in anthropology, economics, psychology, sociology, or social work. Home economists who are advocates for the elderly will find the third part useful. As stated in the title, the content relates to theory, research, and policy rather than providing practical, how-to-answers.

The purpose of the book is to increase knowledge about human service needs and to test the effectiveness of alternative human service delivery approaches. A collection of four articles sets out theories, conceptual frameworks, and methodologies. Gaps in the literature, omissions in the research base are pointed out, and suggestions are made for future research projects. Five research articles are devoted to the special problems of stress (psychology), Alzheimer disease, employee performance of caregivers, use of time where family size varies, and the problem of hip fractures, and caregiving where the elderly have linguistic and hearing problems (communication). Finally four articles are devoted to the development of public policy. These relate to policy in the United States of America, Sweden, and China. There is an article on the role of women, written from a feminist perspective.

Some of the trends and issues in caregiving that are featured include: longer life expectancy; increased number of elderly; increased chronic impairment, and functional disability rather than death; increase in multigenerational families; changes in family structure; increase of women in the labor force; increasing cost of institutional care; and changes in medical technology.

Reviewed by:
Wanda Young, PhD, MA, BEd, BHSc
Professor Emeritus
Saskatoon

Normal and Therapeutic Nutrition by Corinne H. Robinson, Marilyn R. Lawler, Wanda L. Chenoweth, and Ann E. Garwick, (1990). New York: MacMillan Publishing Co., 759 pages; $61.00 U.S.

The authors' stated objectives are the same as the previous editions: to provide a background in the science of nutrition that can be used as a basis for dietary planning; to demonstrate how the principles of nutrition can be integrated with the physiological, cultural, and socioeconomic factors in daily meal selection; and to provide guidelines for nutrition education, dietary counselling, and community nutrition services.

The book is divided into three parts, each consisting of twelve to eighteen chapters. Many of the chapters have been expanded to include new sections on current issues and practices. The first section of the book is entitled "Fundamentals of Nutrition Science". It provides the reader with an overview of the study of nutrition and the study of individual nutrients, protein, CHO, lipids, minerals and vitamins, and energy metabolism. The next section, "Practical Applications of the Principles for Normal Nutrition", provides specific information on meal planning, food intake, preferences, cultural patterns, food safety, and methods for meeting the nutritional needs throughout the life cycle, nutritional assessment and dietary counselling, nutritional problems, and programs within the United States and throughout the world. Several revisions have been made in this section. These include the 1983 low-cost food plan (Chap. 14), calculation for lacto-ovo-vegetaric diet (Chap. 15), "fast foods", "junk foods", organic/natural/health foods (Chap. 16), "herbal teas, food irradication, ethelylene dibnomide (Chap. 17), and the recently adopted U.S. standards for sodium/low-calorie labelling (Chap. 18).

The third and final section, "Therapeutic Nutrition", applies the principles discussed in Parts I and II to various clinical situations. The section begins with an overview of the nutritional care process including the assessment, intervention, documentation, and evaluation of nutritional care in the acute care setting. Several new topics are included. Food Nutrient and Drug Interaction (Chap. 27) provides a follow-up for the discussion of drug nutrient interaction in preceding chapters. Immunity and Stress (Chap. 33) discusses the metabolic and nutritional considerations in the management of the trauma and the critically ill patient. Nutrition Management of the Cancer Patient (Chap. 35) and Computer Applications in Clinical Nutrition (Chap. 44) are also included. Readers, however, will want to refer to the Provincial Diet or Nutritional Care manual for specific guidelines for the Canadian standards for dietary management of specific diseases.

The book contains extensive appendixes. Readers will find this section very useful. Several tables on the nutrition value of foods are included along with two tables of standards of nutrition assessment. Included, also, are extensive references for further study, the 1983 Revisions of the Recommended Nutrient Intake for Canadians and the 1989 Recommended Dietary Allowances for Americans.

Normal and Therapeutic Nutrition is well written, interesting, and easy-to-read. The information is presented in an organized format with charts, tables, illustrations, shadings, and other design features. This edition includes case studies for both normal and therapeutic nutrition which will be very useful in applying the principles learned. Designed for students in nursing, dietetics, and other health professions, this book can also be a valuable reference for new and experienced practitioners.

Reviewed by:
Carol J. Henry, MSc
Lecturer, Dept. of Home Economics
Brescia College
London, Ontario

Inside the Fashion Business. 5th ed. by Jeannette Jarnow and Miriam Guerreiro. (1991). New York: Macmillan Publishing Co., 568 pages; $52.00.

For those readers unfamiliar with earlier editions of *Inside the Fashion Business*, this fifth edition combines text and readings so as to provide an understanding of the numerous industries supporting the fashion business.

The text addresses fashion from point of conception to point of sale and use by consumers. Introductory chapters highlight the economic significance of the apparel industry and fashion as a social phenomenon. Jarnow and Guerreiro discuss basic principles of fashion to lay a foundation for describing different segments of the fashion industry in later chapters. More specifically, later chapters are devoted to discussions of the raw materials of fashion, women's and children's apparel, menswear, and accessories. Imports, retailing, and businesses supporting the fashion industry receive attention in the final chapters.

Students of the Canadian fashion industry will soon discover that *Inside the Fashion Business* has a distinctly American focus. While the theoretical information is valuable in acquainting students with the workings of the industry, it needs to be supplemented with appropriate Canadian statistical data and examples so as to be relevant.

At the end of each chapter, there are a number of readings which add a practical flavor to the text. These readings have been extracted and reprinted from a wide variety of media that directly or indirectly focus on the fashion industry. They are a refreshing conclusion to the more factual information found in each chapter.

The most noticeable change in this edition from the 1987 fourth edition is the selection of readings; it is completely different. Apart from these readings, only minor alterations and additions have been made to the text itself, including brief discussions of technologies for the 1990s. It is interesting to note that the time span between successive editions of this book is decreasing. While it is understood that one constant of the fashion industry is change, it is unfortunate that students are forced to purchase continually revised editions of textbooks.

In addition to the readings, each chapter is accompanied by an extensive bibliography, a review listing of key words and concepts, study questions, and a listing of trade associations and trade publications. *Inside the Fashion Business* would be suitable as a textbook for a post-secondary course in fashion.

Reviewed by:
Janet M. Menec, MSc, PHEc
Lecturer, Continuing Education
University of Manitoba
Winnipeg, Manitoba

Aging in Society An Introduction to Social Gerontology. Edited by John Bond and Peter Coleman. (1990). London: Sage Publications Ltd., 332 pages; $45.00 (U.S.) or Paperback $19.95 (U.S.).

Designed as an introductory text, *Aging in Society*, presents a multidisciplinary approach (sociology, psychology, and biology) towards aging. It was published in association with the British Society of Gerontology.

The text begins with a review of demographic changes towards an aging population occurring in the twentieth century, generally in British society. It ends with a rather cautious look into the twenty-first. The authors hesitate to predict a future as readily as do some other recent authors who have focussed on the probable effects on society of the aging baby-boom generation. (See for example: *Age Wave.* Ken Dychtwald. (1990) New York: Bantam Books, 380 pages; Paperback $12.95.)

Of particular interest to the student will be the concise historical reviews of the theories of aging, in the three concerned disciplines, supported by a bibliography which would provide for further study. However, the portrayal of the present generation of older adults in society is British and would need to be complimented with the North American perspective, by other course materials.

A chapter entitled "Intimate Relationships". by social anthropologist, Dorothy Jerome, deals exceptionally well with the effect of changes in "culture, technology and demographic composition" on the family and peer relationships of the older adult. The author stresses that families must relearn how to be families and that there are no historical guidelines. She feels peers of the older adult are underestimated in the role they can play in this adjustment process. While again the British society is the focus of the author's remarks, this chapter is perhaps the most adaptable for use in Canadian settings.

The authors express the concern that studies of aging have viewed the older adult as a social problem and this has served to support negative public attitudes. Although the way we view the older adult affects the way we practise, education is only briefly suggested as a potential means to ameliorate this situation. Education, by and about the older adult, is one key to changing attitudes and enhancing the quality of life for the older adult in the twenty-first century. It is perhaps a fourth discipline which could have been included.

Reviewed by:
Karen Webster, BSc in Home Economics
MEd Candidate (Educational Gerontology)
University of British Columbia

A Miracle in the Making

CANADA'S INTERNATIONAL IMMUNIZATION PROGRAM

Immunizing the world's children by 1990 – Canada is proudly participating in this extraordinary undertaking to control the six leading communicable childhood diseases that kill or permanently disable seven million children in the developing world every year.

For more information, contact:
Canadian Public Health Association
1565 Carling Avenue, Suite 400
OTTAWA, Canada K1Z 8R1
Telephone: (613) 725-3769
Telefax: (613) 725-9826

Funded by the Government of Canada. Managed by the Canadian Public Health Association.

Canadian Public Health Association
Canada's International Immunization Program

Abstracts of Current Literature

Family and Consumer Studies

Family diversity and the lifecycle.

Rowland, D.T. (1991)
Journal of Comparative Family Studies, 23(1), 1-14.

This article addresses the concerns of many that the developmental framework commonly used in the study of families fails to represent the changing structure of the family in the industrialized world. The aim of the paper is to identify a set of lifecycle types which will cover the experiences of the majority of the population. The paper begins with a brief review of various attempts by other researchers to develop lifecycle concepts, and an explanation of the basis of the proposed lifecycle types.

Rather than define the family lifecycle as a succession of stages through which the nuclear family passes, the proposed classification broadens the definition of family and refers to family lifecycle as the succession of family structures occurring in the household. Family development is assumed to begin with childbearing or at marriage, whichever occurs first. The definition of marriage is expanded to include both stable unregistered marriage as well as formal registered marriage. Termination of marriage is also broadly defined as separation, divorce, or widowhood.

Four criteria for classification were determined. They are: 1) whether there is a single adult or married couple in the household; 2) whether there are children in the household; 3) the marital status of the adults; and 4) whether the children are living with their biological parents only or with a step-parent. The criteria allow researchers to classify households headed by adults in the main reproductive ages. The classification permits reconstruction of the household's past life events. It also permits prediction of the future course of the household if it remains in the same lifecycle category. Twenty-two possible transitions are presented in the new model. The model includes the never married, previously married single, single parent, childless couples, step-families, as well as, the nuclear family.

The model describes types of lifecycles, not stages in the family's lifecycle. The aim is to be able to describe the developmental history of a household in terms of a single classification. The new model extends the nuclear family approach in an attempt to acknowledge the diversity of life experience in current society. The broadened definitions avoid an emphasis on average behavior.

The paper proposes classifications which differentiate family experiences. These classifications allow for comparisons between family and non-family households as well as between different family lifecycle experiences. This article would be of interest to all those who are acquainted with developmental theory.

Caregiving daughters' perceptions of their own and their mothers' personality.

Steven, M.A., Litvin, J.L., Kleban, M.H., and Brody, E.M. (1991)
The Gerontologist, 31(4), 476-482.

The purposes of this study was to assess how caregiving daughters view themselves in relation to their mothers on a set of personality characteristics. Researchers were interested in the characteristics of either mothers or daughters which could predict greater perceived differences in personality and whether different types of impairment, cognitive, functional, or psychological, were associated with different patterns of personality assessment by daughters.

A self-selected sample of 150 daughters who were caring for their non-institutionalized, elderly, widowed mothers was obtained using media advertisements in the Philadelphia area. A structured interview schedule was administered to the daughters. The data were analysed using paired T-tests to determine the differences between daughters' perceptions of themselves and their mothers. Correlations and multiple regression were used to determine the significant bi-variate relationships between predictor variables and the strength of those associations.

The research findings indicate that caregiving daughters rate their mothers significantly more negatively than themselves in 14 of 17 attributes. This includes both positive and negative personality traits. The most significant predictors of the self-rated differences between daughters and their mothers were mothers' psychological symptoms and the daughters satisfaction with the mother-daughter relationship. All assessments were based on data collected from daughters. Researchers were surprised to find that daughters whose mothers were psychologically and cognitively impaired rated their mothers more negatively than themselves but, mothers' functional impairment was not associated with poorer ratings of mothers' personalities.

Researchers suggest that psychological symptoms may precede the caregiving experience. The negative evaluation of mothers' personalities may reflect the desire of the daughters to be different from their mothers, however these assessments could not be confirmed by this study. The findings illustrate the need to look at the caregiving experience within the context of the parent-child relationship over time. An understanding of the mother-daughter relationship prior to caregiving would allow the separation of the effects of caregiving from the more general developmental process.

Paternal child-feeding attitudes and obesity in school-aged sons.

Taper, L.J. Frigge, C., and Rogers, C.S. (1991)
Home Economics Research Journal,. 19(3), 215-223.

Childhood obesity ranges from 3 to 25% with the possibility that 50% of obese children will become obese adults. Excessive weight is of concern because of its associated health risks. Numerous psychological, cultural, and sociological factors are associated with the development of obesity in children. The purpose of this study is to document the relationship between the paternal attitude toward the use of food as a punishment, a reward, a soothing agent, and an expression of affection, and the degree of obesity or leaneness in the respective son. Paternal attitudes towards food were used based on the assumption that in may homes it is the father's food preferences which determine the types of meals prepared by mothers.

A final sample of 72 male student/male parent (guardian) of a possible 302 lower middle class Virginian, households were recruited for the study. Respondents completed a structured 30 item, Likert-type scale designed to assess child feeding attitudes. The scale was developed to measure fathers' attitudes towards food within the following dimensions, food as reward, punishment, soothing agent, or expression of affection. Children were measured for weight using a standard platform beam balance scale, height using the sliding height guide attached to the scale, and obesity using the triceps skinfold thickness and Lange callipers. Frequency of responses within each subscale and the relationship to the son's leanness or obesity were evaluated.

Attitude scores within each subscale tended to the midpoint indicating that many fathers/guardians did not possess definite child-feeding attitudes towards the use of food along the four dimensions measured. When the children were categorized into lean, normal, or obese groups, data failed to support a relationship between the fathers/male guardians' use of food as reward, punishment, soothing agent, or expression of love and the sons' physical status. Correlation coefficients suggest a significant relationship between the subscales. Fathers who tended to use food as a reward in one situation were likely to also use food as an expression of affection or as a soothing agent. Fathers tend not to use food as punishment for their sons' behavior in contrast to findings in other studies that mothers tend to use food as punishment for their daughters' behavior.

Researchers suggest that the scale devised may measure a generalized attitude towards the use of food as a contingency device with the exception of the use of food as punishment since the subscales measuring reward, expressions of affection, and soothing did not necessarily discriminate between each other. Researchers suggest further scale refinement and the use of larger, representative samples.

College students' attitudes, beliefs, and behaviours about AIDS: Implications for family life educators.

Gray, L.A., and Saracino, M. (1991)
Family Relations, 40(3), 258-263.

To date the results of college students' attitudes towards people with AIDS and their personal behavior with respect to contracting AIDS is contradictory. The tendency is to believe that AIDS is confined to the homosexual community. The purposes of this study were to document college students' attitudes towards people with AIDS, to assess students' beliefs about AIDS in relationship to themselves, to determine if AIDS awareness has altered sexual behavior, to determine if there is a relationship between self-reported behavior change and accurate information about AIDS, and finally, to determine if there is a relationship between attitudes towards people with AIDS and knowledge about AIDS.

A non-random sample of 459 undergraduate students enrolled in a human sexuality class in a Northwestern University completed a 16 page survey instrument. The survey instrument was designed to assess students' attitudes, beliefs, and knowledge about AIDS. Students' mean age was 19.5 years, 98% were unmarried, 99% were self-reported heterosexuals, 81% had experienced sexual intercourse, and 80% were Caucasian. Data were analyzed using frequencies, percentages, T-tests, Pearson Correlations, and Chi-Square analysis.

The findings indicate a sense of ambivalence between students' acceptance toward people with AIDS and their willingness to interact with AIDS victims on a personal basis. Female students were significantly more accepting toward people with AIDS than male students. Students were generally knowledgeable about the three primary routes of AIDS transmission, although almost one third of the students believed that AIDS could be contracted through such methods as sharing utensils with someone who has the disease. Evidence clearly supports the view that college students are sexually active; three fourths of those who were sexually active had up to four sexual partners within the twelve months preceding the study. Researchers suggest that serial monogamy may be interpreted as safe behavior. Findings also indicate that students are not discussing "at risk" behavior prior to intercourse. The majority of students reported no change in their sexual activity as a result of AIDS awareness. Results provide evidence of inconsistencies between students' acknowledged willingness to refrain from unsafe sexual practices, knowledge about AIDS, and the actual practice of safer sexual behaviors.

Researchers indicate that family life educators must not lose sight of their professional and moral responsibility to actively implement AIDS education and prevention strategies. Educators should be aware of the differences between male and female attitudes and behavior with regard to AIDS. Future research should focus on methods which will help students realistically assess their risk for AIDS. Investigation of effective educational srategies that provide definitions of "safer" and "risky" sexual behavior is also needed.

Supplementary listing of articles:

Carroll, N., and Wolfgang, A.P. (1991). Risks, benefits, and generic substitution. *The Journal Of Consumer Affairs, 25*(1), 110-121.

DeLong, M.R., Bye, E.K., and Larntz, K. (1991). Perceptions of successful apparel products. *Home Economics Research Journal, 19*(3), 245-251.

Menaghan, E.G., and Parcel, T.L. (1991). Employed mothers and children's home environments. *Journal of Marriage and the Family, 53*(2), 417-431.

Luthar, S.S. (1991). Vulnerability and resilience: A study of high risk adolescents. *Child Development, 62*(3), 600-616.

Blake, J., Richardson, B., and Bhattacharya, J. (1991). Number of siblings and sociability. *Journal of Marriage and the Family, 53*(2), 271-284.

Submitted by:
Katherine J. Kilgour, BAA, BEd
Graduate Student
University of Alberta
Edmonton, Alberta

Foods and Nutrition

Effects of meat color, oven temperature, and sampling position on thiamin retention and moisture content of cooked turkey rolls.

Hsieh, J.H., Matthews, M.E., and Hartel, R.W. (1991)
Journal of the American Dietetic Association, 91, 845-846.

To investigate the effects of color, oven temperature, and vertical sampling position on the thiamin retention and moisture content, commercial turkey rolls were heat processed in a convection oven. Rolls were netted, no water or salt added, and 50% breast and 42% thigh. Oven temperatures tested were 105°, 135°, and 165°C. Rolls were cooked to an internal temperature of 77°C. Cooked turkey meat samples from three positions — top, centre, and bottom — of the centre slice were collected for analysis. Raw samples of white and dark turkey meat were also analyzed.

Thiamin content of raw turkey roll ranged from 80 to 90 μg/100 g raw sample. White meat had a significantly higher thiamin retention (mean — 70%) than dark meat (mean — 64%) after heat processed at three oven temperatures. The higher moisture content in cooked white meat may account for the thiamin retention. As the oven temperature increased, thiamin retention decreased with turkey rolls cooked at 165°C having significantly lower thiamin retention than those cooked at 105°C or 135°C. Thiamin retention among the three sampling positions was not significantly different.

Moisture content of raw turkey rolls ranged from 73.5% to 75.5%. Cooked dark meat had significantly less moisture content (62%) than white meat (65%). Neither oven temperature nor sampling position affected the moisture content of the turkey rolls.

In this study, moisture content was not significantly different, and retention of heat-labile thiamin decreased at higher oven temperatures. The authors stated that other heat-labile nutrients would not likely have a detrimental loss when higher oven temperatures were used.

A prospective study of hospitalization with gallstone disease among women: Role of dietary factors, fasting period and dieting.

Sichieri, R., Everhart, J.E., and Roth, H. (1991)
American Journal of Public Health, 81, 880-884.

Data from the first follow-up of the first National Health and Nutrition Examination Survey (NHANES I) for 4730 women aged 25-74 years were analyzed to determine dietary risk factors for hospitalization with gallstone disease. Baseline information were established from a medical history and a 24-hour dietary recall. After an average of 10 years follow-up, gallstone disease was confirmed in 216 women who denied disease at baseline.

Survival analysis showed that overnight fasting, dieting, and fibre consumption were significantly related to gallstone disease. As overnight fast length increased, the hazard ratio for gallstone disease increased. Risk was greatest for 14 or more hours fasting, intermediate for 8-14 hours, and lowest for less than 8 hours. Fibre intake showed a small protective effect. Lower energy intake was significant only among women less than 50 years old at baseline. There was not a strong relationship between the number of meals eaten daily and hospitalization with gallstone disease.

The authors state that the two most important risk factors for hospitalization with gallstone disease found in this study were a long overnight fasting period (which is likely related to breakfast-skipping) and reduced calorie diets.

Television viewing and obesity in adult females.

Tucker, L.A., and Bagwell, M. (1991)
American Journal of Public Health, 81, 908-911.

The association between television viewing and obesity was studied in 4771 adult females with a median age of 35 years. Data were gathered using a structured, written questionnaire and a private examination. The questionnaire was designed to gather demographic and lifestyle information including television viewing, exercise, and smoking habits. Skinfold measurements were obtained during the examination.

The majority of subjects reported viewing television for 1-2 hours (60%) or 3-4 hours (25%) daily. Over 4 hours of viewing per day was reported by subjects with less education, smokers, non-exercisers, those with short work weeks, and those at either end of the age scale. Obesity, defined as 30% or more body fat, was measured in about one-third of subjects. Obesity was more common with subjects who were older, less educated, non-exercisers, those with long work weeks, and non- and ex-smokers. After adjustment for confounding variables, subjects who reported 4 or more hours of television viewing showed a relative risk for obesity of 2.62, for 3-4 hours of viewing a relative risk of 1.98, for 1-2 hours viewing a relative risk of 1.46 compared to a relative risk of 1.00 for those viewing less than 1 hour of television daily.

The authors stated that cause-and-effect conclusions are not warranted. While excessive television viewing may contribute to obesity, it may be that obesity results in more hours in front of the television. A proposed model stated that as television viewing time increases, time devoted to exercise decreases, and snacking increases. From this, obesity tends to increase and the attraction to passive recreation forms increases. Hence, there is a cyclic nature to the model. The authors call for greater efforts in the study of the influence of television on health.

Soft plastic bread packaging: Lead content and reuse by families.

Weisel, C., Demak, M., Marcus, S., and Goldstein, B.D. (1991)
American Journal of Public health, 81, 756-758.

The lead content of packaging for 18 breads was determined and the extent of packaging reuse by 106 families was assessed. A section of each bread wrapper, containing the printing, was assessed using acid extraction. Sections of clear plastic served as blanks. Lead was detected on all but one of the plastic bread bags and on none of the clear plastic sections. The mean amount of lead extracted was 26 ± 6 mg. Using a 5% acetic acid solution, 6.8% of lead pigment was extracted in 10 minutes and 10% extracted in 60 minutes.

Of the 106 families surveyed, 41% reported reusing bread bags. Reasons included concern for the environment, convenience, and saving money. Over half of the reusers reported using bread bags for food storage and/or packing lunches. Of the 41 reusers, 23 reported turning the bag inside out and 17 of these families reported using the bags while inside out for food storage.

The authors estimated that 30 million bread bags are disposed daily in the U.S., resulting in about 0.8 metric tons of lead being added to the municipal waste stream daily. They call for a reduction of such toxins to minimize exposure to lead for recycling workers and to reduce the toxic load at dumps.

The authors felt that use of inverted bread packaging to store or transport food is not likely an immediate health threat and does not call for an emergency response. However, until the use of lead in bread packaging is prohibited, storage or transport of food in inverted bread bags should be kept to a minimum.

Breast-feeding policies and routines among Arizona hospitals and nursery staff: Results and implications of a descriptive study.

Strembel, S., Sass, S., Cole, G., Hartner, J., and Fischer, C. (1991)
Journal of the American Dietetic Association, 91, 923-925.

To assess breastfeeding trends, 45 Arizona hospitals were surveyed regarding their policies and routines that influence infant feeding practices. Of these hospitals, 21 were urban and 24 were rural. Existence of policies endorsing breastfeeding were reported by 41 of 44 hospitals, with staff actively encouraging breastfeeding in 42 of 44 hospitals. A supportive staff attitude towards breastfeeding was reported by 44 of 45 hospitals.

Interventions that promote breastfeeding included immediate skin-to-skin contact of mother and infant at delivery, rooming-in, demand nursing without supplemental bottles, minimal sedation, and supportive staff. Most of breastfeeding clients roomed-in in 25 of 41 hospitals while 16 hospitals did not practice rooming-in. Demand feeding occurred in over half of breastfeeding mothers in 40 of 45 hospitals. Initiation of breastfeeding after vaginal birth was immediate or occurred within 30 minutes of delivery in 8 hospitals, within 30 minutes to 2 hours in 23 hospitals, and in 7 hospitals the delay was greater than 8 hours.

Practices that interfere with breastfeeding included structured feeding schedules, use of supplemental formula, and use of rubber nipples and pacifiers. Few hospitals reported the use of structured daily schedules. Yet, 41 of 45 hospitals provided glucose water and 40 of 44 hospitals provided formula for breastfed infants. The majority of breastfeeding mothers received formula packs upon discharge, while only 6 hospitals did not distribute these packs.

The authors made several recommendations which included: (1) Professional education should be made available to all health care providers regarding breastfeeding management; (2) hospital policies regarding infant feeding should be reviewed and modified where necessary to support breastfeeding; (3) practices that encourage breastfeeding should be incorporated into hospital routines; (4) practices that interfere with breastfeeding should be eliminated; (5) promotional materials related to bottlefeeding of babies should be removed.

Supplementary listing of articles:

Nutrition notions of bodybuilders: Muscling in on the truth. DeBruyne, L.K. (1991). *Nutrition Clinics*, 6, 1-12.

Guilt and obsessive-compulsive traits in female dieters. Chamove, A.S., Graham, P.A.M., and Wallis, C.M. (1991). *Journal of Human Nutrition and Dietetics*, 4, 113-119.

Food security from the consumer's perspective: An agenda for the 1990s. Campbell, C.C. (1991). *Journal of the Canadian Dietetic Association*, 52, 83-88.

Fatty acids in Canadian margarines. Ratnayake, W.M.N., Hollywood, R., and O'Grady, E. (1991). *Canadian Institute of Food Science and Technology Journal*, 24, 81-86.

Prevention of neural tube defects: Results of the Medical Research Council Vitamin Study. MRC Vitamin Study Research Group (1991). *Lancet*, 338, 331-337.

Development and testing of a carbohydrate monitoring tool for athletes. Moses, K., and Manore, M.M. (1991). *Journal of the American Dietetic Association*, 91, 962-965.

Submitted by:
Laurie Wadsworth, MSc
Public Health Nutritionist
Swift Current, Saskatchewan

Textiles and Clothing

Properties influencing coolness to the touch of fabrics.

Schneider, A.M., and Holcombe, B.V. (1991)
Textile Research Journal, 61(8), 488-494.

When the skin touches a fabric surface, the sensation of warmth or coolness contributes to the perception of a garment's comfort. Fabrics that can absorb and conduct heat well will draw heat away from the skin and feel cool. Schneider and Holcombe attempted to discover the fabric properties that influence thermal touch sensations.

The thermal response of skin touching a fabric was simulated and the initial rate of temperature change recorded as a measure of the coolness sensation. Schneider and Holcombe found that this rate could be correlated with the outer layer thickness of the fabrics tested. The fabrics were made of various fibres and fibre combinations.

Fibre absorption, as well as other physical properties, may contribute to the coolness felt. Where the thickness of the outer fabric layer of wool is reduced by an appropriate finishing technique, the fabric is cool to touch.

Fabric specialty stores: Customer satisfaction/dissatisfaction with information-source attributes.

Cary, R.T., and Fiorito, S.S. (1991)
Journal of Consumer Studies and Home Economics, 15(2), 189-205.

Cary and Fiorito investigated customers' satisfaction and dissatisfaction with information-source attributes supplied by fabric specialty stores. Fabric specialty store customers in eight cities in the United States completed a questionnaire designed to elicit feelings and experiences related to their satisfaction and dissatisfaction with information-source attributes in the 'average' fabric specialty stores. Such attributes included salespeople, store layout/design, fabric-bolt labels, free printed literature, store advertising, and special services.

Results from responses from 41.7% of the sample indicated that salespeople, store layout and displays, and fabric-bolt labels caused more dissatisfaction than the other information-source attributes. Respondent suggestions to improving satisfaction with the attributes are listed. Respondent age was found to be related to the degree of satisfaction of specialty store information-source attributes.

The effects of chlorinated pool water on the lightfastness properties of fiber reactive dyed cotton knit fabrics.

Perenich, T.A., Blackburn, R., and Wilkinson, R.P. (1991)
Textile Chemist and Colorist, 23(8), 14-18.

The effects of chlorine or light exposures, or a mixture of the two on cotton knit fabrics dyed by 17 different reactive dyes were investigated. Perenich, Blackburn, and Wilkinson also explored the relationship between chromophore and the reactive groups which affect the colorfastness of dyed cotton knit fabrics.

The fabric samples of 100% unmercerized cotton knit were cut to weigh 0.8 grams in accordance to AATCC Test Method 162-1986. Resistance to chlorination was tested by method 162 and the combined chlorine/light exposure was tested by method 116E-1987.

A relationship between stability and reactive groups of the dyes was not found. The reactive groups of the dyes with the greatest stability to chlorine and light were listed. The results of the procedures followed by the researchers suggest that no interaction exists between chlorine and light.

Apparel and furniture attribute importance as a function of self-monitoring.

Lennon, S.J., Fairhurst, A., and Peatross, F. (1991)
Home Economics Research Journal, 19(4), 292-302.

One's clothing and environmental artifacts have been found to provide one with a means of self-expression and an implicit method of communicating values and ideals. Self-monitoring is the manner in which people monitor and regulate their expressive self-presentations. Those who have a high self-monitoring score are said to rely on social cues of situational appropriateness to monitor their public expressive behaviors, whereas those who have a low self-monitoring score are believed to lack the motivation or the ability to control these expressive behaviors.

The relationship between self-monitoring and perceived consumer product-attribute importance was investigated in this study. One hundred and sixty female undergraduate subjects viewed slides of either apparel or furniture and rated the item according to importance of product attributes such as appearance, form, and quality.

Results of a multi-variate analysis indicated that people having a low self-monitoring score perceived apparel and furniture attributes that were related to function or quality to be of higher importance that those having a high self-monitoring score. Results also indicate that self-monitoring was related to store patronage.

Supplementary listing of articles:

An investigation into the fatigue mechanism of PET tire cord in the Goodrick block fatigue test. Winkler, E.M. (1991) *Textile Research Journal, 61*(8), 441-448.

Development of a computerized method to measure cotton tenacity at different extension rates. Godbey, L.C., Taylor, R.A., and Brown, R.S. (1991). *Textile Research Journal, 61*(8), 452-460.

The main centres of national fashion in eastern Europe from the sixteenth to the eighteenth centuries. Turnau, I. (1991). *Textile History, 22*(1), 42-65.

Development of a computerized method to measure cotton tenacity at different extension rates. Godbey, L.C., Taylor, R.A., and Brown, R.S. (1991). *Textile Research Journal, 61*(8), 452-460.

Submitted by:
Laurel Martin
Graduate Student
University of Manitoba

New Developments

Compiled by Brenda White

...... In Resources

Families in Canada: An Introduction

This publication examines the myths and realities of Canadian families in the past and present. It was written to introduce senior high students to concepts of families from a sociological perspective. Through photographs and by quoting diaries and journal accounts, the authors (Margrit Eichler and Mary Bullen) show that although there have been important changes in familial lifestyles and values, there was no typical family of the past any more than there is one today. The cost of this publication (catalogue number 1334) is $10.50 plus GST.

To order: Contact OISE Press-Guidance Center, The Ontario Institute for Studies in Education, 252 Bloor Street West, Toronto, ON, M5S 1V5.

Canada's Drug Strategy/Stratégie Canadienne Antidroque

Learn what Canada is doing to reduce the harm caused by problem drug use by reading a copy of Canada's Drug Strategy. It is available in English and French free of charge.

To obtain: Write to Canada's Drug Strategy Secretariat, Policy, Planning and Information Branch, Health and Welfare Canada, 12th Floor, Brooke Claxton Building, Tunney's Pasture, Ottawa, ON, K1A 0K9.

What Everyone Should Know About Food Safety

This 28-page booklet tells consumers how to protect themselves from microbial and chemical contamination of foods. Single copies are available at no charge.

To order: Contact Ontario Institute of Agrologists, 173 Woolwich Street, Suite 203, Guelph, ON, N1H 3V4.

Diabetes Education Pamphlets

Balancing your Blood Sugars: A Guide for People with Diabetes contains new information on testing blood sugar and ketone levels as well as keeping blood sugar and ketone levels in balance. As well, another booklet called *The Other Diabetes* examines all aspects of life for those with Type II diabetes. Both booklets are available in English and French.

To obtain: Contact your local branch of the Canadian Diabetes Association.

Thursday's Child — Child Poverty in Canada

This report reviews the literature available on poverty and the effect poverty has on the 913,000 children living in poverty in Canada. The cost of this report is $12.63 (including postage and GST).

To order: Write to National Youth in Care Network, 119 Murray Street, Ottawa, ON, K1N 5M5.

Treatment of Obesity Report

A 62-page publication entitled *Report of the Task Force on the Treatment of Obesity* discusses the development of guidelines to help assure Canadians have access to weight loss programs which are safe and non-exploitive. The report deals with its subject in a general way and does not evaluate individual programs. This free publication was produced by Health and Welfare Canada.

To obtain: Write to Publications Branch Unit, Health Services and Promotion Branch, 5th floor, Jeanne Mance Building, Tunney's Pasture, Ottawa, ON, K1A 1B4.

American-Standard Toll-Free Number

American-Standard, Canada's largest producer of bathroom and kitchen products, fixtures and fittings, now has a nationwide toll-free phone number (1-800-387-0369 or 536-5609 in Toronto area) to answer questions from customers, builders, and plumbers. The centre's staff speaks English and French. Their hours of operation are 8:00 a.m.-4:00 pm (EDT) but may be extended in the future.

Source: *American-Standard News Release,* April 18, 1991.

Sowing Circles

This is the title of a 25-minute video on the crises confronting older farm women, produced by the Support Groups for Older Farm Women in Saskatchewan. A handbook discussing issues raised in the video accompanies it. The cost is $22.00.

For more information: Contact Women's Inter-Church Council of Canada, 77 Charles Street West, Toronto, ON, M5F 1K5.

Stronger Together, Recruiting and Working with Ethnocultural Volunteers

This handbook for volunteer coordinators in non-profit organizations was written and published by the Central Volunteer Bureau of Ottawa-Carleton. It is available free of charge.

To obtain: Write to Voluntary Action Directorate, Multiculturalism and Citizenship Canada, Ottawa, ON, K1A 0M5.

Taking Down the Wall of Words

Taking Down the Wall of Words: Community Agencies and Literacy (Part 1), reviews the literacy issue in general and shows how the issue impacts on the work of service agencies. It is available free of charge.

To order: Write to the John Howard Society of Canada, 55 Parkdale Avenue, Ottawa, ON, K1Y 1E5.

Enviro-Dial

Want to do the environment a good turn? Send for your single free copy of Enviro-Dial. Produced by the Alberta

Special Waste Management Corporation, it shows you alternatives to environmentally hazardous household products at the simple turn of a dial.

To obtain: Contact Alberta Special Waste Management Corporation, 610, 10909 Jasper Avenue, Edmonton, AB, T5J 3L9.

Lifeline Kits

Well Informed is the name of a program for seniors and their caregivers which encourages seniors to take control of the decisions which affect their health. It comes with workshop material and a 30-minute audio tape. *Going Places* is a program which focusses on teenagers' independence and decision making skills. This program kit has a variety of workshop exercises that challenge participants to find their own strengths and competencies in order to make informed decisions, including ones about drugs and alcohol. A free catalogue listing these and other Lifelines programs is available.

For more information: Write to Production and Distribution, 2nd Floor, Pacific Plaza Building, 10909 Jasper Avenue, Edmonton, AB, T5J 3M9.

Active Living

This spiral bound booklet published by the Alliance for Health and Fitness with funding provided by the BC Ministry of Health was inspired by Fitness Canada's work on the concept of active living. The cost of this practical publication is $5.00 (includes shipping and taxes).

To obtain: Contact Alliance for Health and Fitness, 2379 Bellevue, West Vancouver, BC, V7V 1C9.

...... In Products

A See-Through Fridge

Have you ever wanted to know what is in the fridge without opening the door? Matsushita Corporation of Japan now offers that option. The manufacturer behind such names as Panasonic, Technics, and Quasar has introduced a refrigerator with a see-through door.

Source: *Venture: Alberta's Opportunity Magazine,* Fall/Winter 1990/91.

Hypercolour

Hypercolour is a metamorphic color system that enables fabric to change color with body temperature and the environment. Generra Sportswear Company of Seattle, who has the exclusive distribution rights for the Japanese dyeing system says consumers are fascinated when pressing a warm hand to a green shirt and watching a handprint emerge in yellow or when shown how to use a blow dryer to create unique designs.

Source: *Textile World,* August 1991.

Green Cotton

A Danish textile manufacturer, Novotex A/S is marketing green cotton, the first certified ecological cotton. The cotton was grown according to modern ecological principles without using any kind of chemically based pesticides or fertilizers and was hand picked.

Current production is for T-shirts. The material is undyed, unbleached, and is washed with natural soap. Only 15,000 shirts are being produced — all will be numbered consecutively and will obviously become collectors items.

Source: *Textile World,* August 1991.

Finishes That Cause Problems

Finishes applied to fabrics by manufacturers can cause problems for the consumer. Some finishes are skin irritants or sources of objectionable odors.

Durable-press finishes, if not properly neutralized or rinsed in manufacturing, can cause a pungent formaldehyde odor, often described as "fishy". The odor may be present on a new article, but is often not noticed until the article has been stored in an area with little air circulation or in a situation of increased humidity and heat.

Poorly formulated resins in drapery fabrics may contribute to a very objectionable odor when drapes have been exposed to sunlight, which warms the fabric and creates the odor. An irritation of the eyes or runny nose can also be symptoms.

Flame-retardant salts applied to fabrics can also be acidic, meaning that the heat of drying used by a dry-cleaner may increase the acidity of the item and skin irritation may result. Children's sleepwear may contain flame retardants but these items are typically laundered at home and do not pose a problem.

A dry-cleaner has little control over finishes applied by the manufacturer that possess objectionable odors or skin irritants. Dry-cleanable garments with objectionable odors or irritants usually cannot be remedied unless subjected to a wet cleaning process involving a mild alkaline agent such as ammonia. However, the consequences of wet cleaning are often detrimental to the garment (i.e. shrinkage, color loss, dye migration, texture change, wrinkling). Washable items with odors can often be improved with laundering.

Source: *International Fabricare Institute Bulletin,* August 1991.

...... In Ideas

EFT is In to Stay

The days of getting a little brown envelope with your wage in cash is a thing of the past. Today we are deeply into the Electronic Funds Transfer (EFT) age. Many companies today pay their employees by transferring funds directly into personal banking accounts via computers.

The benefits are great. The system is prompter and more secure than receiving your pay by cheque, particularly if your cheque is sent by mail. There is no threat to your paycheque being lost or stolen. If money is transferred to a savings account, your money starts to earn interest income immediately. This EFT system is also said to be more economical for the employer too.

The other side of this issue is that there is the possibility that a computer breakdown may result in the transfer of funds not taking place, yet there are reportedly few glitches in the EFT system.

The federal government is now an enthusiastic user of EFT, offering a Direct Deposit Service to recipients of Old Age Security, Canada Pension Plan, and Family Allowance payments. The safety and simplicity of this system should appeal to every thinking person.

Source: *Calgary Real Estate News,* August 16, 1991.

Get the "Meat" Out of Meetings

There are several reasons meetings can be a waste of time — and ways to prevent it:

- The Warm Body Syndrome — too often, people are rounded up just to fill chairs. Determine exactly who should attend and why. Invite only those who have a specific purpose for being there. Consider inviting some people for certain portions of the meeting only.
- The Cobweb Caucus — this is the long meeting with no focus, covering a broad range of issues in no apparent order. Prepare a written agenda and distribute it to participants in advance. This allows everyone to arrive prepared, and the meeting will stay on track.
- The Headless Horseman — mostly through lack of leadership, many meetings meander on irrelevant tangents and get mired in chit chat. Make sure one person is designated to chair, providing direction to the meeting.
- The Hot Air Habit — too often there is no action plan when the meeting breaks up. What you get is all talk, no action, and no results. Determine a specific objective for the meeting and assign tasks on the spot.

As a meeting leader or participant, you can take action to transform meetings from time-wasters into productivity-boosters.

Source: *Choices Newsletter,* Priority Management, Summer/Fall 1991.

Nutrition Recommendations for Canadians: Not For Those Under Two

The aspects of the Nutrition Recommendations for Canadians that are not appropriate for children under two years of age are primarily those related to fat and carbohydrate. During early life, a young child's physical characteristics limit total intake capacity and dietary choices. An energy- and nutrient-dense diet is essential.

To maintain the energy intake during rapid growth early in life, an intake of 40% to 50% of total energy from fat appears to be desirable. Reducing fat intake to lower than that level could compromise total energy intake and put the infant at risk of suboptimal growth and development, and fatty acid deficiency.

An increase in less energy-dense carbohydrate (4 Kcals/gram vs 9 Kcals/gram for fat) is not advisable because the child may not be able to consume enough food to meet energy requirements. Likewise, a high fibre diet may have a negative effect on mineral absorption and may compromise energy intake further because of its filling effect.

Carrying this message particularly to those parents who might be eager to introduce a low fat, high fibre diet too early is especially important.

Source: *Rapport,* Vol. 6 No. 3, July 1991.

Children at Risk: Poverty Taking its Toll

Although Canada has no official criteria for poverty, the poor are most often defined as those who live below Statistics Canada's low income cut-offs, commonly referred to as "poverty lines". According to that criterion, more than one million poor children under the age of 16 resided in Canada in 1986; this is about 17% of all Canadian children, or one child in six.

Over one-half of single parent families headed by women live below the poverty line. Poverty is particularly severe for families on social assistance as benefits in most provinces fall between 50% and 60% of the poverty line amount. Even children in families where parents are in the labor force are not exempt — about 56% of all low income families are "working poor".

The health risks associated with poverty begin before birth and extend throughout childhood. Infant mortality, premature births, iron deficiency anemia, and functional disabilities are all more common to children in poor families.

Dietary factors are invariably cited as contributors to the health problems of poor children. The only comprehensive Canadian study that allows an examination of the relationship between income, diet, and nutritional status is the 1972 Nutrition Canada Survey. Canadian research that focusses on children most at risk due to poverty is needed.

Although poverty is strongly associated with ill health, the complex web of causal factors is not well understood. Limited resources, poor living conditions, stress, social and cultural alienation, and family health practices may all play a role. Actions to understand and improve the health of poor children lie in three directions — research and surveillance; policy development; and programs and services.

Source: *Rapport,* Vol. 6. No. 3, July 1991.

Literacy Speakers Service

The Literacy Speakers Service is a national, not-for-profit service providing Canadian speakers for labor, academic, and other forums. The goal of this service is to inform, involve, and find solutions to literacy problems. It is supported by the National Literacy Secretariat Department of the Secretary of State of Canada, private business, and associations; it is managed by the National Speakers Bureau and directed by an advisory board.

For more information: Contact Literacy Speakers Service, National Office, 2605 Alma Street, Vancouver, BC, V6R 3S1.

Federal Initiative on Family Violence

In February 1991, the Minister of Health and Welfare announced the Federal Initiative on Family Violence. For four years, $136 million in new funding is being made available for new initiatives in the areas of child abuse, violence against women, elder abuse, and abuse of people with disabilities. Priority will be given to projects in the following four areas: awareness, prevention, information; new treatment/intervention; training/education; research.

For more information: Contact the Family Violence Prevention Division, Social Services Program Branch, Health and Welfare Canada, Brooks Claxton Building, Tunney's Pasture, Ottawa, ON, K1A 1B5.

The Sizzle in Sizing Down

The "small is good" theory is a philosophy guiding a new generation of Canadian home buyers, many of them first-time land holders or empty-nesters who understand that less house often translates into lower price. It is a philosophy the housing industry is only too eager to explore. A recent study done for the Canadian Home Builders' Association shows most builders intend to build smaller houses over the next 12 months. The trend toward downsizing is most pronounced in Ontario, Nova Scotia, and British Columbia.

Though builders cannot make much money on product for first-time buyers, the empty-nester is a far more lucrative end user for a downsized product. Such buyers are looking for quality but less maintenance and less space.

Downsizing in housing is only beginning to be explored in Canada. Municipal heel dragging in changing zoning bylaws and neighbourhood backlash are two contributing factors why so far, builders have not pursued smaller homes more vigorously.

Source: *Canadian Building,* April/May 1991.

Grocery Store Technology

A new wave in technology sweeping through Canadian grocery stores will make customer service a fine science and a creative art.

Consider for instance, the CheckRobot, a self-scanning check-out counter. Retailers are beginning to realize the potential of scanning data to help pinpoint consumer buying habits such as what customers in a specific neighborhood prefer and how often they buy certain products. Manufacturers also want to know who is buying what. One hundred per cent scanner saturation by 1994 is predicted for across Canada.

Electronic couponing and frequent shopping programs are coming. Once a shopper "signs up", he or she earns discounts and points for buying any of the pre-determined items (suppliers pay a fee to participate). Once a certain number of points are earned, you will be issued a gift certificate for use at that store. The system recognizes and rewards its best customers, while encouraging more to "sign up".

Electronic couponing is a form of target marketing and involves anything from issuing in-store coupons for frequent shoppers to personalized mail. The benefits include cost-effectiveness and creating more impact.

Source: *Canadian Grocer,* July 1991.

Changing Marriage Patterns

The following trends in marriage patterns are based on results of Statistics Canada's 1990 Social Survey:

- fewer young people marry — the decline in the incidence of marriage was most noticeable among 18-29 year olds. Thirty-one percent of this age group was married by 1990 compared with 40% in 1984.
- more common-law relationships — for all age groups, there was an increased number of common-law situations.
- differences between men and women — women are somewhat more likely than men to have been married — three-quarters compared to two-thirds in 1990. The difference is particularly pronounced at younger ages where 38% of women aged 18-29 had been married by 1990 while only 25% of men in this age group had been married.
- marriage after common-law — many common-law partners eventually get married (19% of the married population in 1990). A previous common-law union was most prevalent among married people in the 18-29 year old age group.
- the second time around — a small but growing proportion of adults have had more than one marriage (7% in 1990 compared to 5% in 1984).

Source: *Family Service Canada newsletter,* Summer 1991.

What do you say when . . .?

What do you say when asked what influences Fashion?

Marcia Fossey and Barbara MacLean

> Many definitions of fashion have been given by wise and witty or learned men and women. For example, to Oscar Wilde, "fashion is a form of ugliness so intolerable that we have to alter it every six months". And according to Ambrose Bierce, "fashion is a despot whom the wise ridicule . . . and obey". Thoreau philosophized that "every generation laughs at the old fashions but follows religiously the new". And Shakespeare wrote that "fashion wears out more apparel than the man".
>
> (Jarnow & Guerreior, *Inside the Fashion Business*, 1987, p. 35)

What influences fashion is a complex question. We do know that fashion happens for a reason and it is a response to many things. To understand the constant changes in fashion we must accept fashion as a symbol that is in harmony with an era. Even though we should not play down the role of designers and their influences on fashion, there have been many fashions created by the public which are responses to the world around them. It is the public influences on fashion that we will examine in this article.

Street Fashions

There are many examples of "street fashions", the most classic case being the mini skirt. The mini-skirt derived originally from working girls, art students, and mods in London during the 1960s attaining widespread popularity before being shown by designers such as Mary Quant.

Inspired by the gold rush days, Levi Strauss is known as the "father" of denim jeans. This functional garment enjoyed widespread popularity among gold miners because of its durability and ease of care. In response to the demand by the public, designers seized this "underground" style and made it high fashion. The jean movement took on a new look during the late 1980s and 1990s which included "glitzed-up" jean jackets, ripped jeans, and trimming of tweed suits with denim.

Probably the newest fashion we have seen from the streets is the influence of "Rap", from layers of medallions on wide chains to velvet, plaid, and hats worn backwards.

Social Movements

The hippy style of the 1960s seems to be the most memorable example of anti-establishment fashion. This style developed as a reaction to the unpopular Vietnam War. Cut-off jeans, long hair, beards, home-made clothing decorated with peace symbols, and flowers, leather, and ethnic jewellery were all symbols of self-expression and inner freedom from social rule.

The feminist movement also had a tremendous influence on fashion. During this time a women's figure was entirely concealed while the "pseudo-masculine" image was considered necessary for professional credibility. The baggy suit and the "Big Look" eventually faded and the new working women looked for more "unobtrusive" and coordinated fashions. This trend coincided with the "body-conscious boom" of the 1970s. Women who had dieted their way down to a size 8 wanted to show it off. Thus, the more form-fitted fashions were the "New Look".

The "keep-fit" and "body beautiful" spirit brought a new focus to the fashion industry. Fashion magazines such as *VOGUE* encouraged fitness and exercise as a means to beauty. This magazine featured "work-out" classes, fashion shoots at beaches, and articles on diet and exercise.

Sports and fitness activities created a demand for an entirely new fashion market. Examples of fashions which were a product of physical fitness include: leg warmers, jam shorts, skin tight bicycle shorts, stretch pants, sweatsuits, runners, ski jackets, and most recently, running suits.

World political climate over the last century has also had a tremendous influence on Fashion. During the recent "Gulf War" we saw a revival of the red, white, and blue on everything from socks to tee-shirts. The American public wanted to show their support for the Gulf war and what a

---

Marcia Fossey received her BSc (HEc) at the University of Alberta in 1980. Presently she is a Program Administrator at the Lethbridge Community College. Among other duties she administers a one year certificate program in Fashion Design.

Barbara MacLean has been a Fashion Consultant in Southern Alberta for the past three years. Prior to this she modelled for a local agency and assisted in instructing wardrobe classes. Barbara received a certificate in fashion consulting from the California Fashion Academy.

better way to express their support than wearing these patriotic colors. Some examples of fashions that the public have adopted from the armed forces include: the bomber jacket, trench coat, pea coat, double breasted jacket, brass buttons, the sailor or navy look, and most recently, the camouflage look, and the color khaki.

The environment conscious attitude that the public has adopted during the past few years has had a major impact on the fur industry. Even though the wearing of fur has been a status symbol that goes back many centuries, we are now looking for new alternatives. Designers are now using synthetic fur products which look remarkably real and using dyed natural furs to make them appear synthetic. This confuses the public and therefore creates less controversy.

Outstanding Personalities

Nancy Reagan, when she was First Lady of the United States, was a tremendous boost for the fashion industry. Always in the public eye and being a perfect size 8, she was a designer's dream.

Another First Lady and probably the most renowned for her influence on fashion, Jacqueline Kennedy created a fashion style that inspired women to follow. She promoted American designers with Oleg Cassine as her official dress designer and Halston as her milliner.

Other examples of how outstanding personalities play a part in the development of fashion include: Barbara Bush and her "faux pearls", Princess Diana's wedding dress and the romantic look of the early 1980s; Katherine Hepburn started wearing men's pants which eventually became a wardrobe classic; and Madonna's outrageous "sexy" look is one that will not be forgotten for many years.

Entertainment Field

Punk music hit the top of the charts in the early 1970s. With this new wave of music came a new fashion look. The kids of this generation also wanted a kick at establishment. They walked down the streets of London wearing "mini tartan kilts", leggings and torn PVC, rubber, and leather. Their way of dressing promoted their heroes, — David Bowie, Roxy Music, and the Sex Pistols.

Television shows such as Dallas and Dynasty fuelled a trend for lavish and extravagant clothes. The television production of "Jewel in the Crown" inspired designers to take on an Indian look in their clothing designs.

Movies such as "Urban Cowboy" created an acceptance of Western apparel. People started wearing Stetson hats, silver belt buckles, and denim shirts. Audrey Hepburn's "little black dress" in the movie "Breakfast at Tiffany's" had such a great influence on the fashion market that it is still an essential wardrobe item.

Other examples of movies which have influenced the fashion industry include: "Out of Africa" (safari look), "Annie Hall" (shirts & mens wear), "Bonnie and Clyde" (midi skirt), "Rambo" (menswear), "Flash Dance" (leggings), and "Dances with Wolves" (Native style & culture).

Current Trends

Today we are seeing the revival of many fasion trends. These include:

- The short skirt is here for a while longer as they are a symbol of freedom, spirit, and youth.
- The latest colors are red, hot pink, fuschia, magenta, and raspberry. Bright colors will dominate the fashion market well into the spring of 1991.
- Plaids and pleats are popular this winter along with the revival of the houndstooth pattern.

Glamor and style of the 1940s and 1950s will be the next trend to resurface (which reflects the cyclical nature of fashion).

References

Mulvagh, J. (1988). *History of 20th century fashion*. London, England: Penguin Group Publishing Company.

Jarnow, J., & Guerreive, M. (1987). *Inside the fashion business*. United States of America: Macmillan Publishing Company.

Packard, S. (1983). *The fashion business dynamics and careers*. New York, N.Y.: Holt, Rinehart, and Winston.

From left to right Suzanne Barva, Betti Stretch, and Corinne Dzaman

On the Job

Profile of Suzanne Barva, Betti Stretch, and Corinne Dzaman Home Economists in Health Care

Alberta Hospital Ponoka is a 400 bed treatment facility for Central and Southern Alberta. This facility specializes in three service areas: 120 bed adult psychiatric admission and rehabilitation service which includes a 12 bed substance abuse program, 80 bed brain injury service, and 200 bed mentally impaired elderly service.

In 1974, two home economists were hired by Alberta Hospital Ponoka to provide the rehabilitation patient with practical living skills while in hospital. The program focus was to develop and to restore the patient's ability to function on a day-to-day basis in similar basic skills that the home economics service currently offers. Seventeen years later, there are three full-time home economists on staff. The present focus is on assessment and teaching of food and nutrition, financial management, clothing care, and selection skill areas. The home economist is also a member of the interdisciplinary treatment team on assigned units.

The three staff have been employed for various lengths of time, from 1 to 11 years. Each provides the service of assessment and treatment services to specific groups of patients, either the adult psychiatric admissions or rehabilitation service, to the brain injury service, and to the mentally impaired elderly service as required. A part-time home economics aide is employed to assist with patient programs. Although each of us work on different nursing units, we strive to coordinate our service as a patient is transferred within our facility.

Service to the patient includes individualized skill assessment and teaching in the skill areas mentioned previously. We assist the patient to attain their highest level of independence. In a health care environment home economists provide the treatment team with information on the patient's performance or ability to complete these tasks in everyday living. The specific tasks are part of what can be referred to as Instrumental Activities of Daily Living (IADL). IADL refers to the ability to manage money, go shopping, do light housework, prepare meals, and do laundry.

Over the years assessment tools for three major groups of skills and knowledge have been developed and offered by the home economist. These are:

Food & Nutrition: includes questions and short assignments to review basic nutrition, menu planning, grocery shopping, food preparation, hygiene, kitchen/food safety, table setting, etiquette, socialization, and clean-up skills.

An assessment of food and nutrition skills and knowledge often includes patient participation in individual and/or small group participation sessions where the patient plans menus, prepares food, consumes the meal, and completes clean-up tasks. The task of grocery shopping involves purchasing foods in a local grocery store.

Suzanne Barva, P HEcm BSc obtained her degree from the University of Alberta. She provies home economics services to the Brain Injury Rehabilitation Unit and has been a volunteer board member for the Red Deer Diabetes Association.

Betti Stretch, P HEc obtained her degree from the University of Alberta. She provides home economics services to the Adult Psychiatric Admissions Units and is a volunteer board member for the Ponoka Family and Community Support Services.

Corinne Dzaman, HEc In Training obtained her degree from the University of Saskatchewan and is a volunteer for Red Deer RCMP Victim Services. She provides home economics services to the Adult Psychiatric Rehabilitation Unit.

Financial Management: includes a review of questions and assignments covering the appropriate use and knowledge of banking terms and basic forms, as well as, the skills of planning, controlling, and evaluating a budget.

Clothing Care & Selection: includes a review of questions, assignments, and skill preparation in completing laundry, mending, and selection of clothing.

The home economics service is in an ongoing process of developing observation skills and specific clinical documentation for the interdisciplinary team. Clinical documentation is vital as it is a major method of communication to the diverse group of professionals on the nursing units. Over the years the home economics service has developed treatment interventions which include: assessment-purpose, procedures, standards, and guidelines; data base standards; treatment plan-purpose and standards; progress report standards; and discharge summary standards.

As part of the interdisciplinary treatment team, the home economist attends and actively participates in treatment conference and patient team reviews. This part of the home economist's role involves consultation, collaboration, and cooperation with a wide variety of health care professionals.

The home economists have developed a workload measurement tool which identifies hours of work spent in each service area: in direct and indirect patient care, special projects, as well as fluctuations in interventions/services over a specific period of time. Through the evaluation of the data from the workload measurement tool, the service can determine previous treatment interventions which assists in the planning of future goals and service directions.

As members of the interdisciplinary treatment team, home economists must meet standards as developed by the Canadian Council on Health Facilities Accreditation. These standards are incorporated into everyday work and have assisted in developing services. The seven standards the department must meet include:

- There is a statement of purpose, goals, and objectives for the provision of home economics services.
- Home economics services are organized to support the mission of the facility.
- Written policies and procedures for home economics are consistent with the overall policies of the facility.
- Human and physical resources are available to achieve the goals and objectives of home economics services.
- Orientation, staff development, and continuing education programs are available to all staff of home economics services.
- The patient's individual needs for home economics care/service are assessed and care is planned, provided, and evaluated consistent with assessed needs, the patient's desires and preferences, established standards, and the goals of the service.
- Home economics services have planned systematic activities for monitoring and evaluating the quality of patient care/service, including a plan for action(s) and follow-up to ensure that the action(s) is effective in continually improving the quality of care/service.

Over the past seventeen years the home economics service has focussed on providing patients with some of the skills and knowledge needed to live in the community. We believe that home economics can best provide the programs in Food and Nutrition, Financial Management, and Clothing Care & Selection skill areas. As home economists in health care, our hope for the future, is that this type of program will expand to other health care agencies rather than be unique to Alberta Hospital Ponoka.

JOURNAL OF CONSUMER STUDIES AND HOME ECONOMICS

Individual Members of IFHE can obtain the Journal at a **discount of 70%** off the 1992 price.

The cost for **Individual Members (worldwide)** **$49.50 US**

Contact: Mr. Keith Bowker
Blackwell Scientific Publications Ltd.
Osney Mead
OXFORD OX2 0EL
UK

IFHE ... In Focus

Regards Sur La FIEF

International Federation for Home Economics Policy Statement for 1994 Year of the Family

Exposé de principes de la FIEF en vue de L'année internationale de la famille; 1994

Doris Badir, IFHE President

The following official policy statement of the International Federation for Home Economics was prepared by Doris Badir, IFHE President in January, 1991, and revised in May, 1991, with input from IFHE executive Committee members. It is anticipated that this statement will be of assistance to home economics groups and individuals as they plan activities for the 1994 International Year of the Family.

Preamble

The International Federation for Home Economics is an organization of professionals whose work roles involve 'helping' families to improve the quality of their daily lives. They do this in a diversity of situations: working directly with families; educating future family members; within

Préambule

La Fédération internationale pour l'Économie Familiale est une organisation de professionnelles dont le rôle est d'aider les familles à améliorer la qualité de leur vie quotidienne.

Le bien-être familial dépend des ressources affectives et matérielles qui permettent les activités quotidiennes indispensables à l'existence d'une famille.

L'économie familiale perçoit la famille comme une unité, source constante d'échanges entre ses membres, et entre elle et les agences et services (gouvernementaux, économiques et privés) de la société. Les ressources nécessaires aux individus pour participer à ces échanges concernent l'économie familiale. La profession a une vision

International Year of the Family **1994** **Année Internationale de la Famille**

Design reflects the family at heart of society

Le logo symbolise une famille au sein de la société

Le Logo, créé par Catherine LITTASY-ROLLIER, artiste suisse de renom vivant à VIENNE, servira à sensibiliser l'opinion publique sur les buts et les enjeux de l'Année

The design, created by Catherine LITTASY-ROLLIER, a well known Swiss artist residing in VIENNA, will be used in promoting public awareness of the goals and purposes of the Year business, community, and government agencies; promoting programmes which support and strengthen families; and research on questions and issues relevant to the daily lives of families. The welfare of a family is dependent upon the presence of the necessary emotional and material resources to support the daily activities which sustain familial existence.

The home economics profession:

- *perceives* the family as a unit in constant exchange, on the one hand between family members and on the other hand between the family and agencies and services (governmental, economic, and private) in the larger society. The resources required by individuals to participate in these exchanges are concerns of home economics.
- *practises* an integrative approach to the family attempting to recognize the interrelationships required to manage all these exchanges effectively.
- *recognizes* the speed with which change takes place for families seeking to satisfy their needs for emotional and material resources.
- *functions* in a preventive (rather than therapeutic) mode and therefore seeks to assist people to develop their own skills to acquire and manage both emotional and material resources.

Therefore:

The policy of the International Federation for Home Economics (IFHE) will be to encourage its members, both in the practice of their profession and as advocates for families, to strive for the following:

As practitioners

To work directly with families to assist them to acquire the resources and to manage their resources (both emotional and material) so that the basic necessities for the quality of life are available.

They hope to accomplish this through:

1. Education (formal and informal) of all children (boys and girls) to enable them to become effective members of families and households.
2. Education of adult (men and women) to assist them to share equally in the acquisition and management of the resources necessary for familial life.

As Advocates for Families

By encouraging policy, in cooperation with other NGOs, which will support and enhance the quality of lives of individuals in households and families.

Therefore, the special concerns of home economics, when approaching legislators, will be:

- adequate facilities to support families with aging, ill, or disabled members to maintain a high level of functioning;
- adequate facilities and support for families facing difficulties such as income loss, violence, alcohol, or drug abuse, to enable them to make the necessary changes so that a better level of functioning may be obtained;
- promotion of literacy for girls and women to enable them to participate fully in educational programmes and in the workforce, that is to say, promote the empowerment of women;

intégrée de la famille, en essayant d'identifier les relations nécessaires pour bien organiser ces échanges.

L'économie familiale sait que les besoins affectifs et matériels des familes évoluent très rapidement.

L'économie familiale agit de manière préventive (plutôt que thérapeutique) et s'efforce donc d'aider les gens à développer leurs qualités personnelles afin qu'ils puissent acquérir et gérer leurs ressources affectives et matérielles.

Pour cette raison, la Fédération Internationale pour l'Économie Familiale aura pour politique d'encourager doublement ses membres, dans leur vie professionnelle et dans leur rôle de défenseurs des familles, pour qu'ils s'efforcent :

En tant que Professionnels, de travailler directement avec les *familles* pour les aider à acquérir des revenus et à *gérer ces ressources (affectives et matérielles)* afin qu'elles aient le minimum nécessaire pour une certaine qualité de vie.

Les économistes familiales espèrent atteindre ce but par :

1. L'éducation (formelle et informelle) de tous les enfants (garçons et filles) pour leur permettre de devenir des membres actifs dans leur famille.
2. L'éducation des adultes (hommes et femmes) afin de les aider à partager équitablement l'acquisition et la gestion des ressources indispensables à la vie familiale.

En tant que Défenseurs des familles, en encourageant, aved d'autres ONG, toute politique qui permet d'améliorer la qualité de la vie des individus et des familles.

En conséquence, les économistes familiales insisteront auprès des législateurs sur les points suivants :

- prévoir des moyens d'aider les familles qui ont des membrs âgés, malades ou handicapés à vivre dans de bonnes conditions
- prévoir des moyens d'aider les familles, confrontées à des problèmes tels que perte de revenu, violence, alcool ou drogue, à réaliser les changements nécessaires dans leur comportement afin de vivre mieux
- promouvoir l'alphabétisation des filles et des femmes afin qu'elles participent pleinement aux programmes éducatifs et à la vie professionnelle, c.-à-d. encourager la promotion des femmes (leur conférer des pouvoirs)
- assurer une bonne nutrition à tous les stades de la vie
- maintenir des normes de santé en assurant l'accès universel aux soins médicaux, à une alimentation saine et à de l'eau potable.
- assurer les échanges entre pays industrialisés et en voie de développement afin de favoriser une connaissance mutuelle et de partager les connaissances mutuelle et de partager les connaissances et les technologies pour que les familles accèdent à une mailleure qualité de vie
- aider les foyers à gérer leurs ressources grâce :
  - — à une formation en économie familiale à tous les niveaux des services éducatifs
  - — aux systèmes d'aide au revenu
  - — aux politiques fiscales et de pension qui bénéficient aux femmes et aux familles
  - — à l'aménagement des horaires de travail, des vacances et des congés parentaux pour permettre aux femmes

understandings, knowledge, and technology to assist in increasing the access of families to quality life;

- assisting households and families to manage their resources through the provision of:
  - — educational services at all levels in home economics subject matter
  - — adequate income support systems
  - — tax and pension policies which benefit both women and families
  - — regulation of work hours, holidays, and parental leaves to enable women and men to provide, more effectively, the emotional support required for family life
  - — acknowledgment of the economic value of the exchange of services among family members
  - — maintenance of, and conservation of the natural environment to ensure an adequate supply of natural resources to sustain the quality of life for all.

It must be noted that not all home economists, or all Home Economics Associations will work in all of these areas, but that projects in these areas will be promoted and carried out by home economists throughout the world in 1994.

et aux hommes de mieux assumer le soutien affectif indispensable à la vie familale

- — à la reconnaissance de la valeur économique des échanges de services entre les membres de la famille
- — au maintien et à la protection de l'environnement naturel afin d'assurer une réserve de ressources naturelles suffisante pour assurer une qualité de vie pour tous.

Il faut souligner que toutes les économistes familiales ou les associations d'é.f. ne travailleront pas toutes sur l'ensemble de ces sujets, cependant des projets dans ces domaines seront conçus et mis en place par les économistes familiales dans le monde entier en 1994.

XVIIth World Congress of the International Federation of Home Economics Hannover 1992

Theme: Focussing on Families and Households: Change and Exchange

with 36 workshops before and after the Congress

26. – 31. July 1992

Organizer: International Federation for Home Economics (IFHE)

— ✂

COUPON

Please send me the complete programme with enrolment form.

Name: ____________________

Street: ____________________

Town: ____________________

Country: ____________________

Please, send this coupon to: "XVII. Welthauswirtschafts-kongreß 1992", P.O. Box 2665, D-3000 Hannover 1

Advertising Rate Card No. 18 Effective Spring 1990

CANADIAN HOME ECONOMICS JOURNAL

Official organ of the Canadian Home Economics Association

Published 4 times annually January 1, April 1, June 15, October 1

Circulation 2000

Editor: Glenda Everett, Lethbridge Community College
3000 College Drive, S., Lethbridge, AB, T1K 1L6
Tel: (403) 320-3343

Business Manager: CHEA National Office, 901-151 Slater St., Ottawa Ont., K1P 5H3
Tel: (613) 238-8817 / 238-8819

Advertising Rates (per insertion)

Page rates	**1 time**	**4 times**
Full page	470.	445.
2/3 page	400.	375.
1/2 page	280.	260.
1/3 page	235.	210.
1/4 page	190.	165.

Covers (non-cancellable)	
Inside front	540.
Inside back	515.
Outside back	590.
Centre spread	870.

Color	
Standard	265.
Matched	295
Process	875
Bleed	n/c

Inserts

Black & White space rate plus 110. tip in charge per M.

Preferred position charge: 15% of space rate only
Closing dates: First of month preceding publication

Mechanical and Offset Requirements	
Type page	7 x 10
Trim page	8 1/8 x 10 7/8
Bleed page	8 3/8 x 11 1/8
Inserts	8 1/4 x 11 1/8
Paper stock	80lb

Unit sizes	
1 page	7 x 10
2/3 page	4 1/2 x 4 7/8
1/2 page	7 x 4 7/8
1/3 page	2 1/8 x 10
1/4 page	3 3/8 x 4 7/8

Offset Requirements: Emulsion side down. Four color offset negatives, separated for color, plus one set of progressive proofs. Maximum screen 133.

Mailing Instructions

Send inserts and production materials to:
Canadian Home Economics Journal
MOM Printing Ltd., 300 Parkdale, Ottawa, Ont., K1P 1G2.(Attention Ed Finnigan)

Send inquiries, contracts, insertion orders to:
Canadian Home Economics Association, Attn: Business Manager
901-151 Slater Street, Ottawa, Ontario, K1P 5H3

CHEA
Break ing the Barriers '92

CHEA CONFERENCE 1992
CONGRÈS DE L'ACEF 1992

Breaking the Barriers: Social and Gobal Space
July 12 to 15, SASKATOON, SASKATCHEWAN
Plan now to attend

Keynote Address:
Dr. Kinsey Green, University of Oregon

Dr. Green will examine social and global barriers which affect families. Through her leadership and inspiration she will encourage us to continue being leaders in improving the quality of family life during confusing times.
Workshop to follow: Breaking the Barriers: Influencing Public Policy.

Edith Rowles Simpson Lecture:
Dr. Patricia Thompson, Lehman College, New York

Dr. Thompson will present a case for Home Economics as a precursor to a feminist philosophy that does not capitulate to a masculine definition, but is instead grounded in the "space" or "life world" that women have created and traditionally occupied - the domestic or private sphere.
Workshop to follow: Breaking the Barriers: Validating the Private Sphere.

Conference Hotel: Saskatoon Inn

$62 plus GST and 7% PST double or single occupancy until June 2, 1992
Telephone: 1-800-667-8789
Registration: $175 plus GST. Early Bird Draw

Vaincre Les Obstacles: L'Environnement Social et Global
du 12 au 15 juillet 1992,
SASKATOON, SASKATCHEWAN
Nous vous attendons

Conférencière Principale:
Dr. Kinsey Green, Université de l'Oregon

Le Dr. Green analysera les obstacles sociaux et globaux qui touchent les familles. Par son dynamisme et sa motivation, elle nous encouragera à continuer à jouer un rôle décisif pour l'amélioration de la qualité de la vie familiale en ces temps difficiles.
Atelier consécutif: Vaincre les obstacles: Agir sur la politique gouvernementale.

Conférencière Edith Rowles Simpson:
Dr. Patricia Thompson, College Lehman, New York

Le Dr. Thompson montrera que l'économie familiale aggisait en précurseur avant même le féminisme qui ne capitule pas devant le monde masculin, mais qu'elle est solidement implantée dan l'"espace" ou le "cadre de vie" que les femmes ont créé et occupent traditionnellement - le secteur domestique ou privé.
Atelier consécutif: - Vaincre les obstacles: Valoriser le secteur domestique.

Hôtel du congrès: Saskatoon Inn

Tarifs jusqu'au 2 juin, 1992: 62$ plus TPS et taxe provinciale (7%)
Chambre pour une ou deux personnes.
Telephone: 1-800-667-8789
Inscription: 175$ plus TPS. Tirage des premiers arrives.

SEE THE SPRING ISSUE FOR REGISTRATION PACKAGE

CONSULTEZ LE NUMERO DE PRINTEMPS POUR LE DOSSIER COMPLET D'INSCRIPTION

1117 Broadway Avenue, Saskatoon, Sask. S7H 2A2 • Tel: (306) 664-8758 Fax: (306) 664-4404